DALLAS W. DAVIS
Geologist

Open File Report 87-7

THE LIMESTONE INDUSTRY IN NEW BRUNSWICK
VOLUME II - APPENDICES

by

Dallas W. Davis,

Economic, Financial and Technical Consultant

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THE LIMESTONE INDUSTRY

IN NEW BRUNSWICK

VOLUME II - APPENDICES

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Mineral Resources Division
Department of Natural Resources
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* Refer to OPEN FILE REPORT 87-6, " The Limestone Industry of New Brunswick " (Vloume I) to accompany these appendices.

APPENDIX I

1. New Brunswick and Nova Scotia Agricultural Limestone Assistance Programs.

2. "Atlantic Soils Need Lime" prepared by the Advisory Committee on Soil Fertility and published by Authority of the Atlantic Provinces Agricultural Services Coordination Committee.

3. Statistics on New Brunswick Agricultural Limestone Assistance Program.

APPENDIX I (1)

New Brunswick and Nova Scotia Agricultural Limestone Assistance Programs

SOIL AND CROP ADVANCE MANAGEMENT POLICY

September 1, 1985

PURPOSE

The purpose of this Policy is to optimize the opportunity to produce food, feed and ornamental crops by encouraging the orderly utilization of fundamental input elements.

AGRICULTURAL LIMESTONE AND GYPSUM

Objective

The objective of the agricultural limestone and gypsum program is to encourage the establishment of sound soil management practices by providing a soil analysis service and a contribution towards the cost of transporting limestone and gypsum from the lime manufacturing plant to the premises of the purchaser.

Limits

To qualify for transportation assistance, purchasers are required to submit a soil sample for analysis to the Agricultural Laboratory of the New Brunswick Department of Agriculture and Rural Development. Samples should be taken according to the instructions provided by the Laboratory and should be representative of the fields that are to be treated with agricultural limestone or gypsum.

REGULATIONS

Prices

All prices will be quoted F.O.B. at the lime plant. Price schedules will be published by the lime plant and are subject to the approval of the New Brunswick Department of Agriculture and Rural Development.

Application for Assistance

Application for assistance on the transportation of agricultural limestone and gypsum should be made through the Agricultural Finance Branch of the New Brunswick Department of Agriculture and Rural Development. Applications should be completed on forms provided by the Department of Agriculture and be accompanied by a copy of the soil analysis report for the fields that are to be spread with agricultural limestone or gypsum.

Approval of Assistance and Ordering

When applications for assistance are approved by the Department, the applicant will be advised and supplied with a statement that stipulates the amount of assistance that will be paid on each tonne of limestone or gypsum purchased. The approval to purchase will be valid from April 1 to August 31, from September 1 to December 31 and from January 1 to March 31. New applications are required for fall deliveries.

Payment of Transportation Assistance

A copy of the statement supplied to the applicant will be forwarded to the lime manufacturer. The manufacturer will deduct the transportation assistance from the delivered price of the limestone or gypsum, and assume the responsibility for paying the transportation company for the cost of freight and invoicing the Department for the freight assistance within 30 days of shipment. The Department will pay the assistance to the lime company that has been authorized through the statements issued to approved applicants.

Transportation Assistance Schedule

The New Brunswick Department of Agriculture and Rural Development will make a financial contribution towards the cost of transportation of lime or gypsum from approved lime manufacturers to the premises of the purchaser.

Lime and Gypsum Quality

1. Agricultural limestone must meet the following standards:

   (a) Neutralizing value of 85% or above;
   (b) Fineness - all particles must pass through a 10-mesh screen and 50% through a 100-mesh screen.

   Limestone that is below these standards will not be eligible for transportation assistance. Transportation costs that are incurred on limestone that is below the above standards are the responsibility of the limestone company that originated the shipment.

2. Agricultural gypsum must meet the following standards:

   (a) Contain at least 20% calcium and 15% sulphur determined by analyses from time to time;
   (b) Fineness - all particles must pass through a 16-mesh screen and 50% through a 100-mesh screen.

   Agricultural gypsum that is below these standards will not be eligible for transportation assistance. Transportation costs that are incurred on gypsum that is below the above standards are the responsibility of the limestone company that originated the shipment.

Terms of Policy

This policy is effective September 1, 1985 and is subject to termination or modification without further notice by the New Brunswick Department of Agriculture and Rural Development.

Rate Schedule

1. The rate schedule per kilometer established between 160 and 550 km is adjusted downward to reflect the reduced handling cost for the receiver on deliveries made by truck. The maximum truck rate is $15.38 per metric tonne.

2. The maximum truck assistance of $15.38 per metric tonne applies to shipments transported more than 550 km.

3. For distances greater than 161 km either truck or rail mode can be utilized, but the assistance shall be based on the mode used for shipment.

Rate Schedule for Agricultural
Limestone or Gypsum Delivered by Truck

Distance Hauled	$/Tonne	Distance Hauled	$/Tonne
0- 40	2.76	291-300	9.63
41- 50	2.93	301-310	9.86
51- 60	3.30	311-320	10.09
61- 70	3.58	321-330	10.32
71- 80	3.87	331-340	10.55
81- 90	4.16	341-350	10.78
91-100	4.45	351-360	11.01
101-110	4.74	361-370	11.24
111-120	5.03	371-380	11.47
121-130	5.32	381-390	11.70
131-140	5.61	391-400	11.93
141-150	5.90	401-410	12.16
151-160	6.19	411-420	12.39
161-170	6.47	421-430	12.62
171-180	6.74	431-440	12.85
181-190	7.00	441-450	13.08
191-200	7.24	451-460	13.31
201-210	7.48	461-470	13.54
211-220	7.72	471-480	13.77
221-230	7.96	481-490	14.00
231-240	8.20	491-500	14.23
241-250	8.44	501-510	14.46
251-260	8.68	511-520	14.69
261-270	8.92	521-530	14.92
271-280	9.16	531-540	15.15
281-290	9.40	541-550	15.38

Rate Schedule for Agricultural
Limestone or Gypsum Delivered by Rail

Distance Hauled	$/Tonne
0-160	No Assistance
161-240	8.90
241-320	9.70
321-400	10.50
401-480	11.00

NEW BRUNSWICK DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT

Agricultural Finance Branch
P. O. Box 6000, Fredericton
New Brunswick E3B 5H1

Name of Agricultural Producer

_____

Tonnes of Lime Requiring Assistance _____

Tonnes of Gypsum Requiring Assistance _____

Name of Custom Lime Spreader (if any)

_____

Name of Lime Plant _____

Transportation By: Truck _____ Rail _____
(unloading point)

Approximate Distance for Hauling from Lime Plant _____ km

Date of Soil Sampling _____ 19 __

Laboratory Number _____

Approximate Date for
Delivery of Lime or Gypsum _____ 19 __

Did you purchase lime or gypsum last year? Yes _____ No _____

Farmer Identification Number _____

This lime or gypsum is for my own use and will be spread on land

in the community of _____

in the county of _____.

_____
Signature of Agricultural Producer

Address: _____

_____

Telephone: _____

Note: Please ensure that you send a soil sample with your application, as failure to do so will result in a delay in processing your application.

Nova Scotia

Department of
Agriculture
and Marketing

1985 - 1986
EXTENSION
POLICY NO. NS - 4

AGRICULTURAL LIMESTONE ASSISTANCE POLICY

PURPOSE: The purpose of this Policy is to encourage the wide use of agricultural limestone to enhance the growth of most agricultural crops by lowering the acidity of Nova Scotia soils.

AVAILABILITY: To all Commercial farmers of Nova Scotia engaged in crop production.

ASSISTANCE: Financial assistance is provided on the basis of production costs and transportation of limestone from the point of production to a commercial farm in Nova Scotia.

Financial assistance is limited to the extent of funds budgeted for this Policy.

QUALITY OF LIMESTONE: In order to be eligible for production and transportation assistance, the limestone obtained from a quarry approved by the Department of Agriculture and Marketing must be ground to a fineness so that all the material will pass through a 10-mesh sieve and at least 60 percent through a 100-mesh sieve.

Dolomitic limestone (calcium plus magnesium carbonate) must have a minimum calcium carbonate equivalent of 90 percent.

PRICES: Prices of ground limestone are based on bulk truck load lots f.o.b. Mosher Limestone Ltd., Upper Musquodoboit. Prices of limestone are for delivery effective April 1, 1985.

Bulk Ground Limestone - total cost	$12.25/ton
N. S. Department of Agriculture & Marketing Production Subsidy	2.60/ton
Commercial Farmer's Cost	9.65/ton

/2

PRICES (CONT'D): The cost of bagged limestone to commercial farmer is $9.65 a ton plus the cost of bagging.

NOTE: Dolomitic and high calcium ground limestone are both available. If high calcium limestone is required the limestone order must specify this material.

TRANSPORTATION ASSISTANCE: Transportation assistance on agricultural limestone will be available to commercial farmers in truck load shipments on the following basis:

(1) under 10 miles - no assistance;
(2) between 10 - 50 miles - 11 cents per ton mile
(3) between 50 miles and farm - 5 cents per ton mile.

The transportation assistance on limestone trucked from the plant to the farm may be paid to either the purchasing farmer or the trucker. The application for this assistance is completed by the purchaser or his representative signing a receiving slip and the return of this slip to the plant.

HOW TO ORDER: Orders may be forwarded to:

Mosher Limestone Company Ltd.
Upper Musquodoboit
Halifax County, Nova Scotia B0N 2M0

Or, orders may be placed through

The operator of a custom limespreading service.

PAYMENT: Unless arranged otherwise, orders should be paid for in advance of shipment.

Inquiries and correspondence, other than direct orders should be made through the

Agricultural Representative OR

The Director, Extension Services Branch
N.S. Department of Agriculture and Marketing
P.O. Box 550, Truro, Nova Scotia, B2N 5E3

Approval of the Director of Extension must be given prior to the payment of any limestone assistance claims.

LIMESTONE

Limestone usage by Nova Scotia farmers in 1984 fiscal year totalled [redacted], a definite increase over the 1983 year of 89,768 tons. The [redacted] This was made up of a production subsidy of $2.60 per ton and the balance of [redacted]. In the table below, limestone usage by county is set out for 1984 with comparative figures for 1983 provided.

LIMESTONE USAGE BY COUNTY

COUNTY	1984	1983
ANNAPOLIS	5,369	5,719
ANTIGONISH	7,821	5,204
CAPE BRETON	4,383	3,606
COLCHESTER	12,197	11,776
CUMBERLAND	8,471	11,456
DIGBY	471	451
GUYSBOROUGH	251	380
HALIFAX	2,044	1,979
HANTS	10,138	9,202
INVERNESS	5,129	4,966
KINGS	27,041	20,803
LUNENBURG	3,031	3,714
PICTOU	8,903	8,125
QUEENS	222	181
RICHMOND	171	333
SHELBURNE	198	131
VICTORIA	668	604
YARMOUTH	740	1,138
TOTAL	97,248	89,768

LIMESTONE SALES BY DISTRICTS - APRIL 1, 1983 - MARCH 31, 1984

COUNTY	TRUCK
Annapolis	5,718.93
Antigonish	5,204.35
Cape Breton	3,606
Colchester	11,776.27
Cumberland	11,455.7
Digby	451.21
Guysboro	379.7
Halifax	1,978.9
Hants	9.202.35
Inverness	4,966.25
Kings	20,802.6
Lunenburg	3,714.35
Pictou	8,124.9
Queens	180.5
Richmond	332.5
Shelburne	130.5
Victoria	604.5
Yarmouth	1,139.3
TOTAL TONS	89,768.81

Assistance paid on transportation from Upper Musquodoboit to farm	$691,043.82
Production subsidy	200,957.12
Program cost	$892,000.94

LIMESTONE SALES BY DISTRICTS - APRIL 1, 1982-MARCH 31, 1983

COUNTY	TRUCK
Annapolis	7,173.8
Antigonish	9,512.3
Cape Breton	3,039.3
Colchester	16,107.3
Cumberland	9,317.7
Digby	657.5
Guysboro	587.5
Halifax	2,333.45
Hants	10,999.6
Inverness	6,028
Kings	27,810.5
Lunenburg	3,580.65
Pictou	9,459.5
Queens	131.4
Richmond	289.9
Shelburne	80.7
Victoria	650
Yarmouth	1,009.55
TOTAL TONS	108,768.65

Assistance paid on transportation from Upper Musquodoboit to farm	$826,707.53
Production subsidy	227,450.88
Program cost	$1,054,158.41

LIMESTONE SALES BY DISTRICTS

APRIL 1, 1981 - MARCH 31, 1982

COUNTY	TRUCK
Annapolis	4,437
Antigonish	6,868
Cape Breton	3,523.5
Colchester	13,049.55
Cumberland	10,570
Digby	584.5
Guysboro	425.5
Halifax	2,811
Hants	9,033.25
Inverness	4,873
Kings	25,125.5
Lunenburg	4,255.5
Pictou	6,890.95
Queens	96
Richmond	40
Shelburne	60
Victoria	225
Yarmouth	1,327
TOTAL TONS	94,195.25

Assistance paid on transportation from Upper Musquodoboit to farm	$653,622.60
Production subsidy	201,487.64
Program cost	855,110.24

LIMESTONE SALES BY DISTRICTS

APRIL 1,1980 - MARCH 31, 1981

COUNTY	TRUCK	RAIL
Annapolis	6,179.50	
Antigonish	7,138	
Cape Breton	2,394	
Colchester	13,047	
Cumberland	10,257	
Digby	362	
Guysboro	216.50	
Halifax	2,281	
Hants	8,731.50	
Inverness	4,273	
Kings	30,838	
Lunenburg	2,993.50	
Pictou	7,657.50	
Queens	736	
Richmond	216	
Shelburne	207	40
Victoria	500	
Yarmouth	1,905	
TOTAL	100,899.50	40

Total tons - 100,939.50

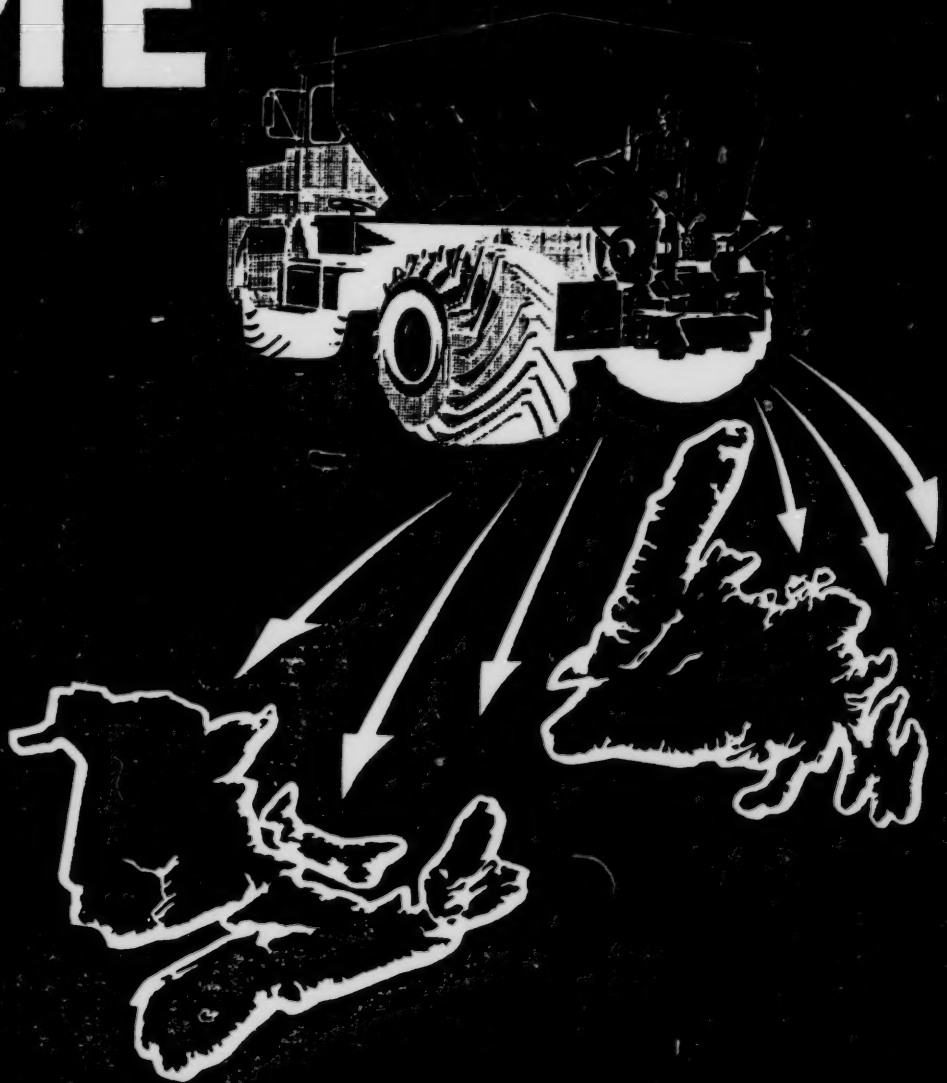
Assistance paid on transportation from Upper Musquodoboit to farm	$701,140.80
Production subsidy	208,412.22
Program cost	909,553.02

APPENDIX I (2)

"Atlantic Soils Need Lime" prepared by the Advisory Committee on Soil Fertility and published by Authority of the Atlantic Provinces Agricultural Services Coordination Committee

Atlantic Soils Need LIME

Publication No. 534-84
Agdex No. 534



Published by Authority of the
Atlantic Provinces Agricultural
Services Co-ordinating Committee

Prepared by Advisory
Committee on Soil Fertility

Atlantic Soils Need Lime

Most agricultural soils in the Atlantic Region are naturally acidic and liming is essential if they are to be productive. Inadequate use of limestone has been a major limiting factor in crop production in this region since farming began. Failure to lime acid soils reduces crop yields and wastes much of the farmers' fertilizer investment. Relatively large applications of limestone are required to initially correct soil acidity and subsequently, smaller applications are required to maintain the soil pH in a desirable range for optimum production for most crops.

What is soil acidity?

Soil acidity is caused by the presence of hydrogen (H^+) ions and the two types of acid that supply the hydrogen ions to the exchange complex of the soil are inorganic and organic. Soil acidity increases as soil nutrients such as calcium (Ca), magnesium (Mg) and potassium (K) are leached from a soil and replaced by H ions. Some of the acidity of soils in the Atlantic Region results from: (1) insufficient natural lime in the soil; (2) the use of fertilizers; (3) leaching due to rainfall and (4) crop removal. The hydrogen ions which are present in soil solution represent active acidity and those attached to clay particles and organic matter are called reserve acidity. The pH of a soil is a measure of the active acidity only, yet most of the acidity is held in the reserve form in most soils. In liming a soil, enough limestone must be applied for the calcium and magnesium in the limestone to replace both the active and reserve acidity in the soil. The amount of limestone required depends on the soil pH, organic matter content and the amount and type of clay present in the soil. If the amount of clay and organic matter is high (heavy soil), the soil has a high cation exchange capacity (CEC), and thus a large ability to hold nutrients (calcium, magnesium, potassium and micronutrients). Sandy soils have a low cation exchange capacity and low reserve acidity. This is why different amounts of limestone are required to raise different soils from one pH level to another. Soil testing takes into account both forms of acidity in determining the lime requirement.

Alkaline soils have pH values greater than 7.0 and require no limestone additions. Very few soils in the Atlantic region are alkaline. Acid soils have pH values below 7.0. A soil with a pH of 6.0 is mildly acidic, while one with a pH of 5.0 is ten times more acidic and a soil with a pH of 4.0 is one hundred times more acidic than a soil with a pH of 6.0. Soils below a pH of 5.0 usually contain levels of plant available aluminum and manganese which are toxic to plant growth.

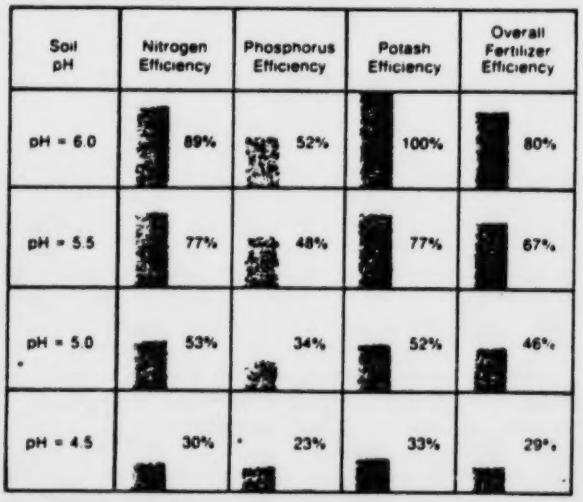
Some aspects of the cation exchange capacity concept follow:

Soils with high clay content	Soils with high sand content
— High CEC	— Low CEC
— More lime required to correct acidity	— Less time required to correct acidity
— Greater capacity to hold nutrients in a given soil depth	— Nitrogen and potassium leaching more likely
— Hard to work	— Easily worked
— Tillage costs increase	— Tillage costs relatively low
— High water-holding capacity; drainage may be a problem	— Low water-holding capacity; irrigation frequently necessary

What are the benefits of liming?

1. Very acid soils contain soluble aluminum and manganese at toxic levels. Liming the soil changes the aluminum (Al) and manganese (Mn) to less soluble chemical forms, thus greatly reducing their availability to the plant roots.
2. Liming increases the plant availability of phosphorus (P), and molybdenum (Mo) from the soil.
3. All liming materials supply calcium and reduce acidity. Dolomitic limestone supplies both calcium and magnesium.
4. Liming promotes increased activity of soil microorganisms which can result in faster decomposition of added organic matter and increased availability of organic nitrogen (N), and sulfur (S) and phosphorus to plants.
5. Liming improves efficiency of fertilizer use. (see Figure 1.)
6. Liming improves soil structure by stabilizing soil aggregates, thus reducing soil erosion.

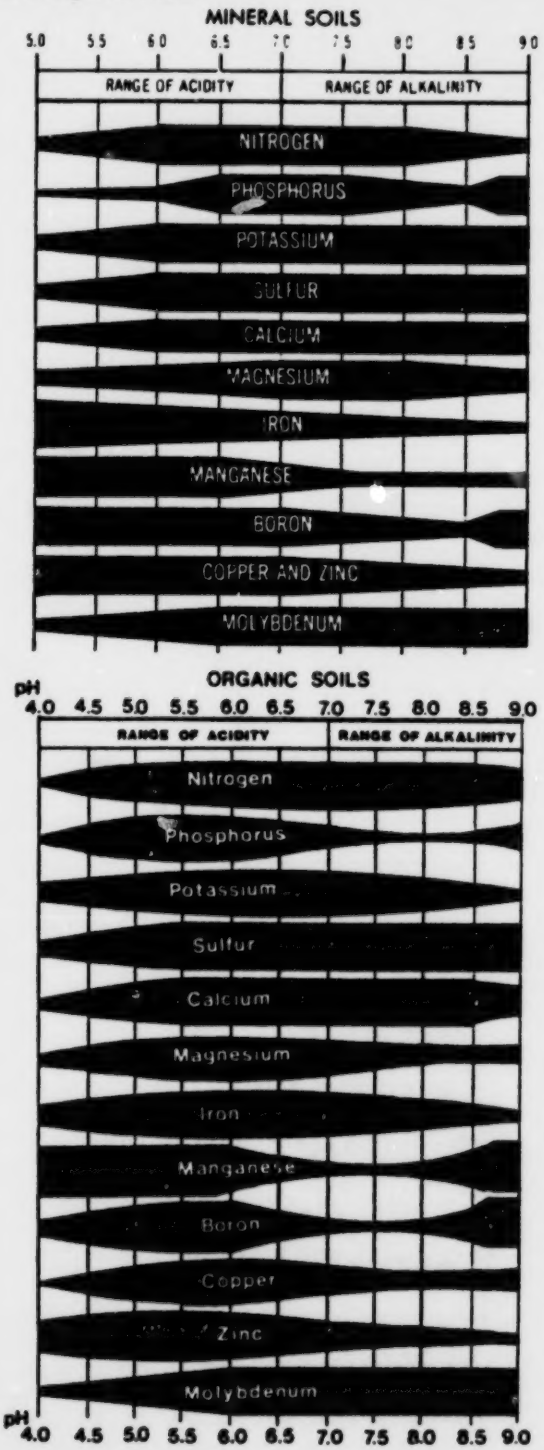
Figure 1. Fertilizer Efficiency at Various Soil pH Values.



Atlantic Soils Need Lime

Figure 2 shows some of the benefits of liming mineral and organic soils.

Figure 2. Relative Availability of Elements Essential to Plant Growth at Different pH Levels for Mineral and Organic Soils.



How much lime is needed?

Results of soil tests in the Atlantic region show that approximately 70% of the soils need from 2 to 8 tonnes of limestone per hectare to correct present acid soil conditions. In extreme cases 16 tonnes or even more may be required per hectare. **Periodic maintenance applications equivalent to approximately 0.5 tonnes per hectare per year are required to maintain a given pH.**

The following factors determine the amount and type of limestone needs of a given soil:

1. Soil pH
2. Amount of reserve acidity in the soil
3. Depth of plowing
4. Magnesium level in soil
5. pH requirement of the crop under consideration
6. Soil texture (content of sand, silt and clay)
7. Fertilizer used

These factors must be considered collectively. Therefore, limestone recommendations should be made by the soils advisory laboratory on the basis of a truly representative soil sample. Table 1 indicates the effect of some of these factors on the lime requirement of soils.

Limestone — kind and quality

Liming materials differ in their chemical composition, neutralizing value, fineness of grind and speed of reaction with the soil. Choice of a liming material should not be made on the basis of cost alone because THE CHEAPEST LIMESTONE MAY NOT BE THE MOST SATISFACTORY FOR YOUR PARTICULAR SOIL REQUIREMENTS. The limestone chosen should raise the pH to the required level as well as provide a proper balance of calcium and magnesium in the soil. Agricultural limestones are composed of either calcium carbonate called calcite limestone or a natural calcium magnesium carbonate combination called dolomitic limestone. Because agricultural limestone contains impurities, pure calcium carbonate, with a neutralizing value of 100, is used as a "standard" to compare the effectiveness of liming materials. Table 2 gives some common limestone analysis.

Fineness of grind is a very important factor that influences the rate of reaction of a limestone in the soil. The finer a limestone is ground the more quickly it will react when thoroughly mixed with soil. This is due to the increase in surface area of the limestone particles caused by finer grinding as illustrated in Figure 3.

The large number of very small particles in finely ground limestone allows the limestone to be more thoroughly distributed throughout the soil and in more direct contact with soil particles than would occur with coarsely ground limestone. Limestone particles larger than 2.00 mm (9 mesh TYLER) screen, such as grit fillers used in granular fertilizers, have very little effect on soil pH. The rate of limestone reaction increases with decreasing particle size. A finely ground limestone, all of which will pass

Table 1.
Limestone required to change the pH of an 18 cm plow layer of various soils.

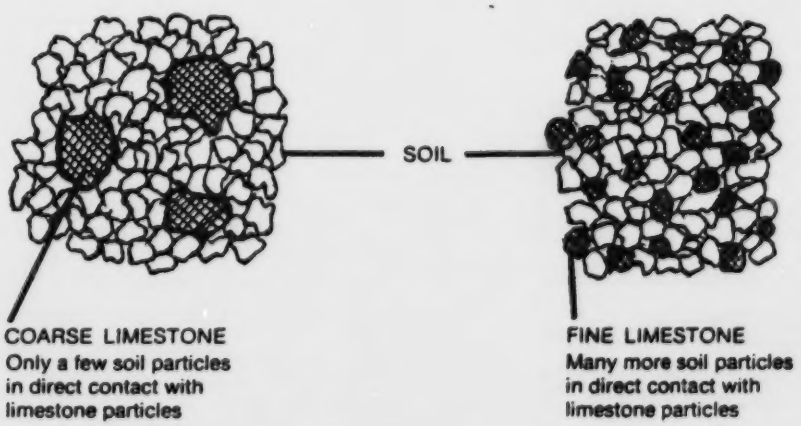
Texture of plow layer	Desired pH	Soil pH before liming			
		4.5	5.0	5.5	6.0
		lime required in tonnes/hectare[1]			
Clay Loam	6.5	15	12	8	4
	6.0	11	8	4	0
	5.5	7	4	0	0
Loam	6.5	12	9	6	3
	6.0	9	6	3	0
	5.5	6	3	0	0
Fine Sandy Loam	6.5	9	7	4	2
	6.0	7	5	2	0
	5.5	5	3	0	0
Sandy Loam	6.5	7	5	3	2
	6.0	5	3	1	0
	5.5	4	2	0	0

1 tonnes/ha × 0.446 = tons/acre

Table 2.
Limestone Analysis

Type	Calcium Content	Calcium Carbonate Equivalent	Magnesium Content	Magnesium Carbonate Equivalent	Neutralizing Value
	%				
Calcitic	35	88	0.3	1	90
Dolomitic	20	53	11	38	95

Figure 3. Effect of particle size on limestone contact with soil particles.


SOIL
COARSE LIMESTONE
Only a few soil particles in direct contact with limestone particles
FINE LIMESTONE
Many more soil particles in direct contact with limestone particles

through a 2.00 mm screen and 60% of which will pass a 0.15 mm (100 mesh TYLER) screen has sufficient fine particles to give quick results, yet has enough coarse particles to prolong its effect. (See Figure 4.)

When and how should limestone be applied?

The primary reason for applying lime is to adjust the pH rather than to supply plant nutrients.

REMEMBER: it takes twice as much lime to correct the acidity of the cultivated layer of a soil plowed 20 centimeters deep as it takes to correct the acidity of the same soil plowed only 10 centimeters deep.

A most important consideration is limestone incorporation into the soil. Unless the limestone is thoroughly mixed to full plow depth, only a part of the rooting zone will be favourable for plant growth. For Fall applied lime, the possibility of surface runoff is another good reason for incorporation of lime into the soil. Limestone applied on the surface, as in a pasture, penetrates very slowly and requires many years to correct the acidity to plow depth. For best results, land to be planted to pH-sensitive crops should be limed the previous Fall. Some benefit is derived from Spring application. On areas where a permanent sod is maintained, light applications are preferable to one heavy application.

If the recommendation is 6 or less tonnes per hectare, the limestone should be applied before or after plowing and be thoroughly worked into the seed bed. If the lime recommendation is greater than 6 tonnes per hectare, plow down one-half and work the other half into the surface before seeding. It is recommended that not more than 6 tonnes per hectare be applied in one application and for practical reasons, not more than 12 tonnes in one year. No more than 4 tonnes per hectare should be applied to permanent sod in one year. When there is a large lime requirement (in excess of 12 tonnes per hectare) the lime should be applied over several years.

REMEMBER: the lime requirement (or "Required Application") is the amount of limestone needed to raise the soil pH to 6.5 (in most cases) as determined by soil tests. The lime recommendation is based on the lime requirement.

The equipment used for liming must spread limestone uniformly. The introduction of bulk spreading equipment by custom operators has provided an efficient means of spreading limestone on large areas of land in a minimum of time. Custom spreading equipment with floatation tires allows spreading when soil is too soft for conventional equipment. Custom spreading eliminates handling of the limestone by the farmer but attention to the uniformity of the spread must be maintained.

Lime losses from the soil

As calcium and magnesium are lost through leaching and crop removal, the acidity of the soil is increased and soil pH levels are lowered. It is advisable to retest soil 1 to 2 years after liming to measure changes in pH. With the high rates of fertilizer in use today, the soil pH may drop rapidly, thus requiring very close attention to the liming program.

REMEMBER: Soils of the Atlantic region require at least 400 to 500 kg of limestone per hectare per year to maintain a constant pH. This need for maintenance cannot be stressed strongly enough.

Effect of acid rain on acidity

It is estimated that the plow layer in the Atlantic region requires only about 60 kg limestone per hectare per year to neutralize the acidity from acid rain. The acidity results from sulfuric and nitric acids formed through reactions between sulfur and nitrogen (released into the air from the combustion of fuels) and atmospheric moisture.

Effect of fertilizers on soil acidity

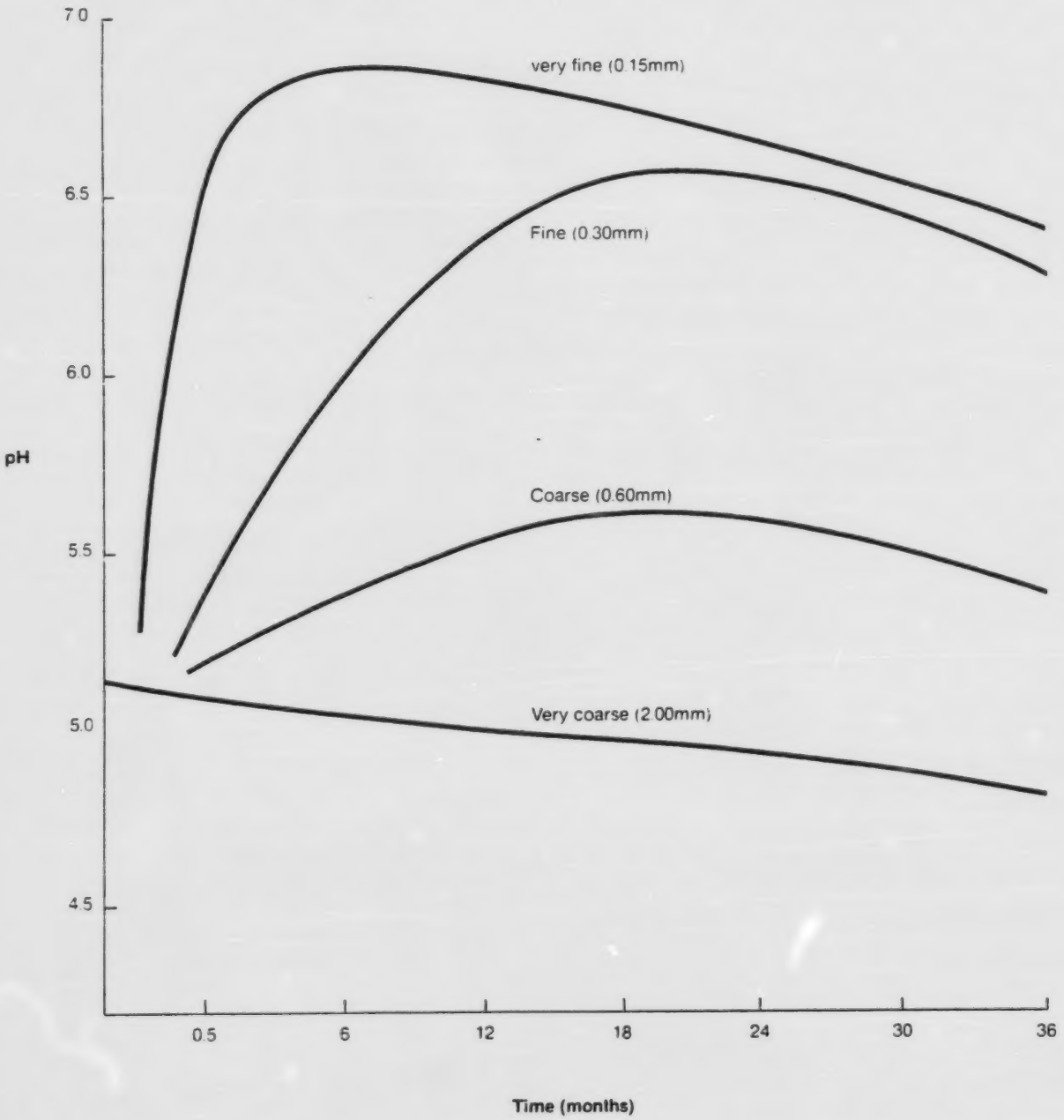
The nitrogen-supplying materials in essentially all commonly used fertilizers contribute acidity.

Table 3 indicates the amount of limestone needed to counteract the acidity caused by various fertilizers. For example, an application of 100 kg of nitrogen per hectare per year (300 kg of ammonium nitrate) will require 180 kg of limestone per hectare to counteract the fertilizer acidity. If limestone is applied only every third year, 540 kg per hectare will be required for neutralization of fertilizer acidity. Similar calculations may be made for mixed fertilizers if the amounts and forms of nitrogen they contain are known.

Table 3.
Amounts of lime required to neutralize fertilizer acidity

Fertilizer Material	kg of limestone needed per tonne of fertilizer material applied
Ammonium nitrate (34% N)	600
Urea (46% N)	870
Diammonium phosphate (18-46-0)	670
Monoammonium phosphate (11-48-0)	650
17-17-17 → N sources: AN + DAP	490
10-20-20 → N sources: AN + DAP	340

Figure 4. Variation in soil pH with time after lime application as affected by fineness of grind.



Calcium and Magnesium Needs in the Atlantic Provinces

Calcium and magnesium are essential elements in the nutrition of plants.

Calcium deficiencies, though rare, may also be encountered under low pH conditions and are easily corrected by application of either limestone or gypsum (calcium sulphate).

The magnesium content of many Atlantic soils, while naturally low, can be easily corrected with either dolomitic limestone or the application of fertilizers containing magnesium. Apples, forages, oats, barley, corn, potatoes, and tobacco are sensitive to magnesium deficiency. Magnesium deficiency usually occurs in coarse-textured acid soils limed in the past with calcitic limestone, oyster shell, blast lime or marl. Magnesium deficiency may also be induced by heavy potassium fertilization on soils approaching a deficient Mg level.

Dolomitic limestone is the most economical source of magnesium available in this region for application to the soil. When liming soils low in magnesium, dolomitic limestone is highly recommended. If the soil pH is already high and magnesium is needed, it may be supplied for the current crop year as an additive in a blended fertilizer or as a foliar spray. Conversely, if the soil Mg level is adequate and lime is required, calcitic limestone may be used to raise the soil pH to the required level.

A dolomitic limestone containing 38% magnesium carbonate will supply 110 kg of magnesium per tonne. Most of this magnesium in finely ground limestone is available to plants. If the same limestone contains 53% calcium carbonate it will supply 212 kg of calcium per tonne. A calcitic limestone containing 88% calcium carbonate will supply 352 kg of calcium per tonne.

Gypsum is a source of calcium and sulfur. It has little if any effect on soil pH and can be used for crops grown on more acidic soils requiring improved Ca levels, (e.g. potatoes). GYPSUM IS NOT A LIMING MATERIAL.

Consequences of Overliming

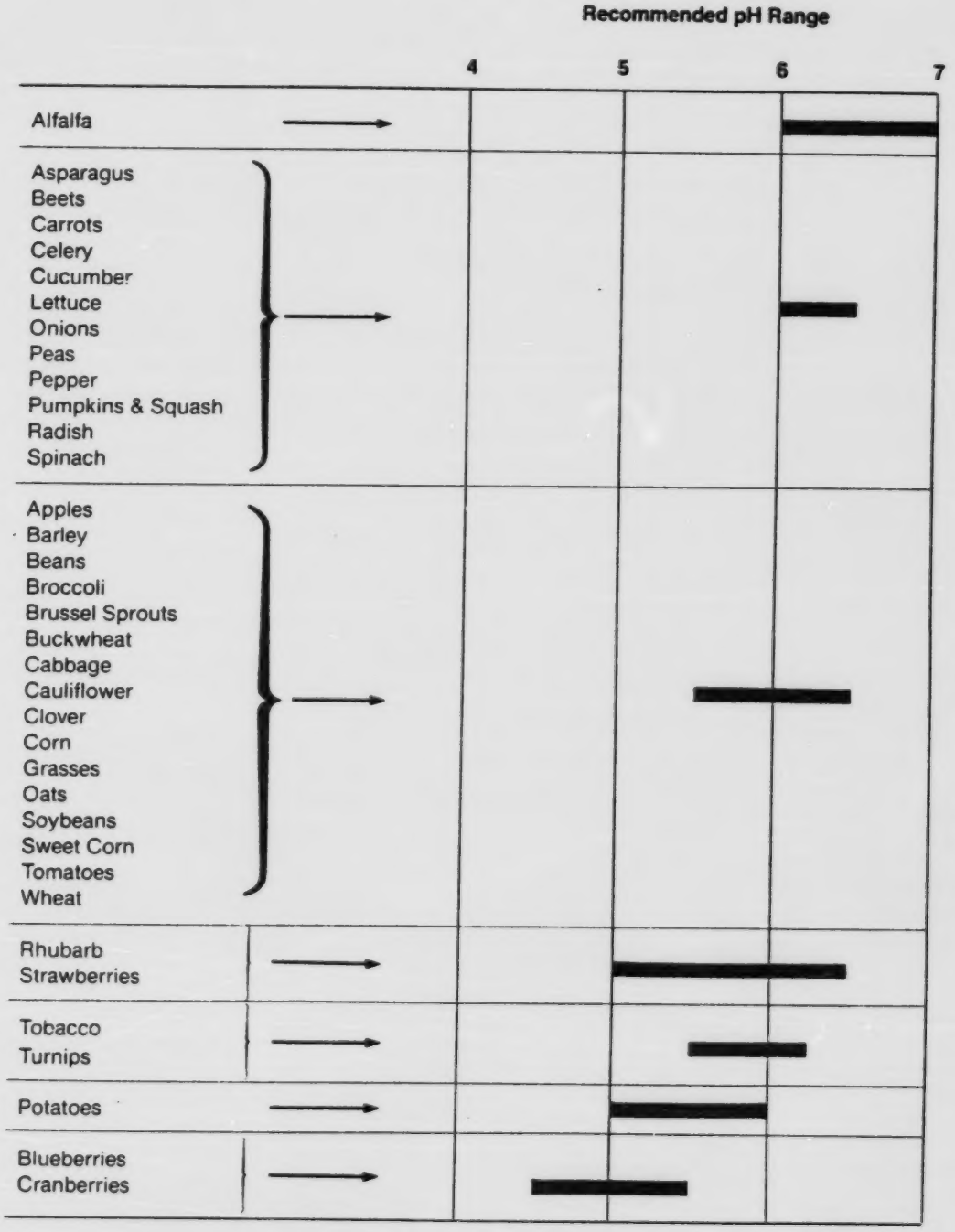
Liming soils to pH 6.5 or higher restricts the availability of some micronutrients. For example, the availability of boron decreases above pH 6.5. Higher than normal amounts of boron fertilization may be needed for crops having a high boron requirement to overcome the effect of liming in excess of pH 6.5. Liming the soils to pH 6.5 or higher will decrease the availability of zinc, iron, manganese and copper. The availability of molybdenum increases with liming to pH 5.5 or higher, but large increases in the availability of molybdenum occur only when soils are limed to pH 6.0 or higher. (See Figure 2).

Soil pH ranges required by crops

On mineral soils, most crops give optimum production if the pH is between 5.5 and 6.5. Blueberries and cranberries are exceptions as they grow best on very acid soils. Alfalfa and sweet clover growth is seriously reduced as the soil pH falls below 6. Cereals, corn and grasses grow satisfactorily between pH 5.5 and 6.0, but perform better if the soil pH is in the 6.0 to 6.5 range. The recommended pH ranges for a number of crops are presented in Figure 5. While potatoes grow well at pH levels above 5.4, scab susceptible varieties may be grown at soil pH levels of 5.0 to 5.4 to reduce the risk of scab infection. The scab organism does not thrive well in these low pH levels. Scab resistant varieties can be grown at soil pH levels around 6.0.

Liming does not replace other management practices. In addition to the use of limestone, productive soils also require adequate additions of crop nutrients through fertilizers, crop residues and manures. Timeliness of cultural operations remains important in order to make optimal use of soil, labor, and climatic resources and to produce crops of high yield and quality. Normal pest control practices and selection of recommended crop varieties are still requisites to successful production operations.

Figure 5. Recommended pH ranges for various crops.



Atlantic Soils Need Lime

Advice on taking soil samples is available from your county or district agricultural office or from your provincial soils labratory

Send Soil Samples for analysis to:

1. Nova Scotia Dept. of Agriculture & Marketing
   Soils & Crops Branch
   Harlow Institute
   Box 550
   Truro, N.S.
   B2N 5E3
   Phone: 895-1571

2. Soil Laboratory
   New Brunswick Dept. of Agric. & Rural Dev.
   P.O. Box 6000
   Fredericton, N.B.
   E3B 5H1
   Phone: 453-2108

3. P.E.I. Soil & Feed Testing Lab.
   Agricultural Research & Extension Bldg.
   P.O. Box 1600
   Charlottetown, P.E.I.
   C1A 7N3
   Phone: 892-5465

4. Newfoundland Dept. of Rural Agric. & Northern Dev.
   Soil and Plant Laboratory
   Prov. Agric. Bldg.
   Brookfield Rd.
   St. John's, Nfld.
   A1C 5T7
   Phone: 737-3845

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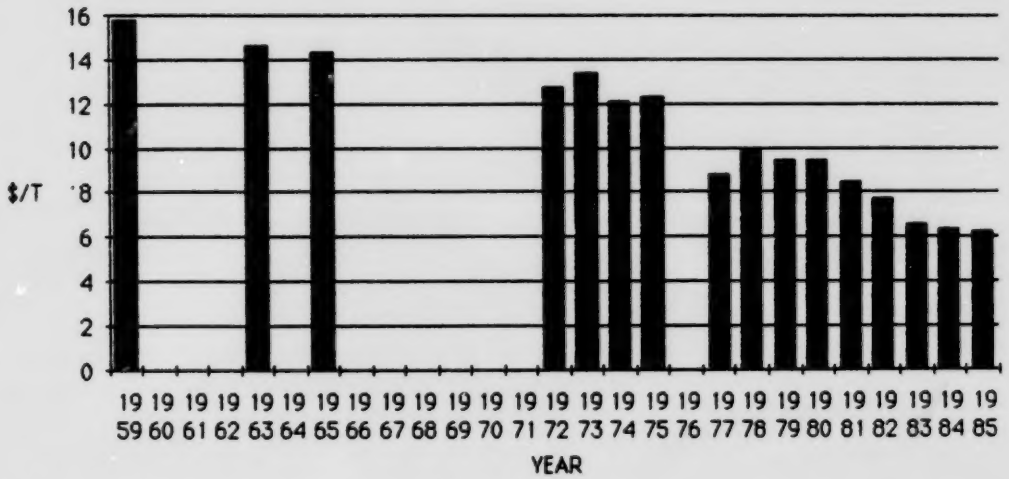
Cover Graphics
Cheryl Baird, Marketing and Economics Services, NSDAM, Truro

APPENDIX I (3)

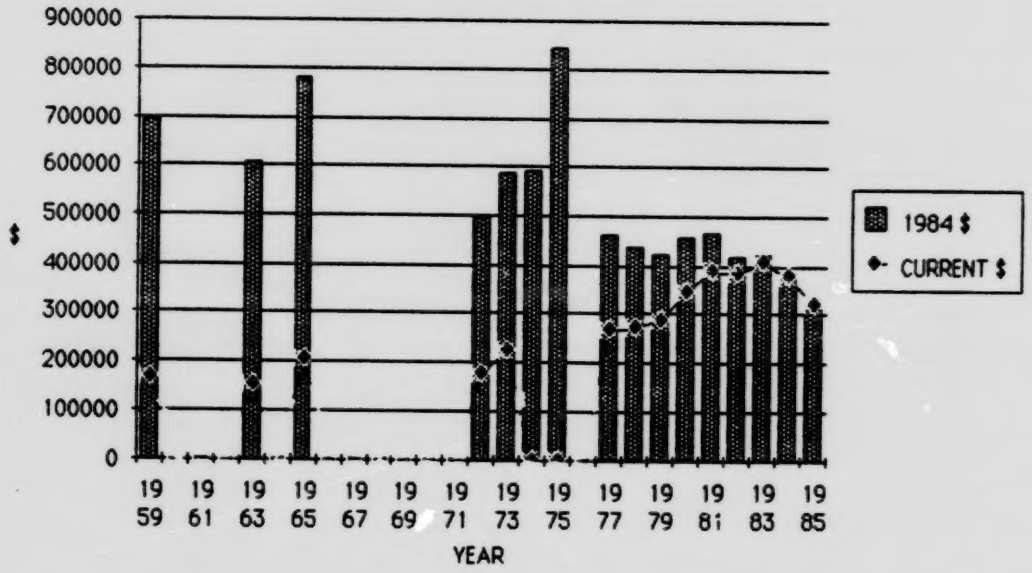
Statistics on New Brunswick Agricultural Limestone Assistance Program

AGLIME SUBSIDY PAYMENTS EXPRESSED IN 1984 DOLLARS (Current dollars adjusted for inflation using Gross National Expenditure Implicit Index of Statistics Canada)

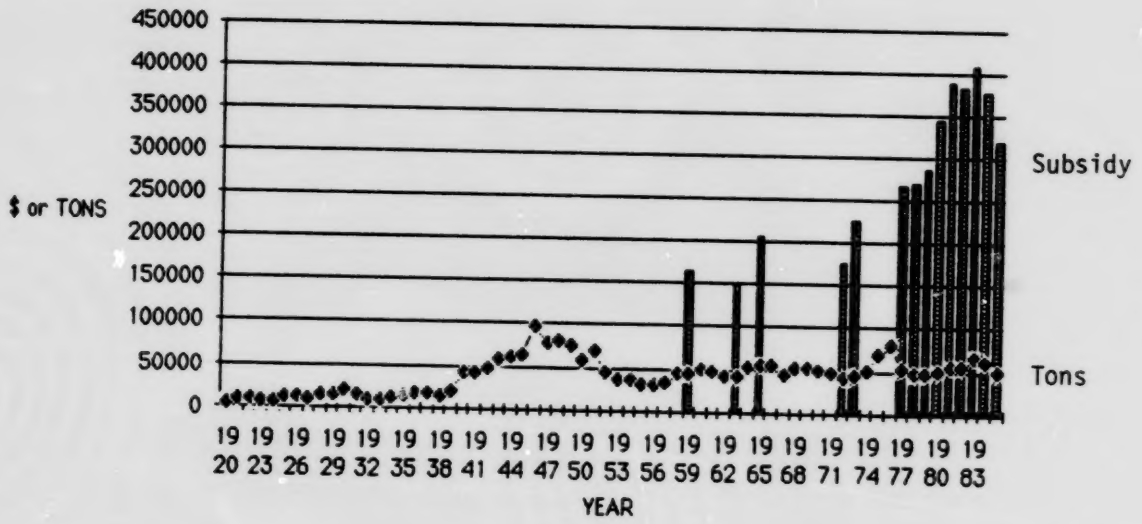


YEAR	CURRENT $ $	1984 $ $	1984 $ $/T
1959	165725	694323	15.77
1960			
1961			
1962			
1963	151876	605677	14.6
1964			
1965	207237	781527	14.32
1966			
1967			
1968			
1969			
1970			
1971			
1972	175340	498133	12.71
1973	226198	588786	13.38
1974		590476	12.08
1975		843683	12.31
1976			
1977	266777	461866	8.83
1978	271024	439861	9.83
1979	287278	422768	9.47
1980	345999	458310	9.38
1981	390387	467493	8.44
1982	383996	417746	7.73
1983	410077	421668	6.59
1984	379680	379680	6.29
1985	320717	311628	6.27

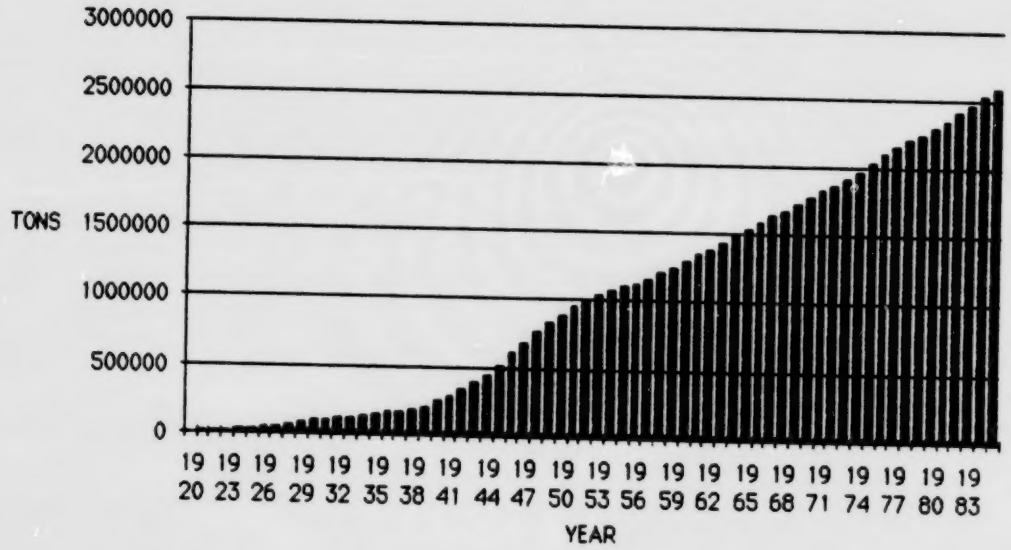
N.B. AGLIME SUBSIDY CURRENT VERSUS 1984 DOLLARS



AGLIME SUBSIDY COMPARED WITH TONNAGE SUBSIDIZED (NBDOA Annual Reports & Files, data not located for years with no indicated subsidy)



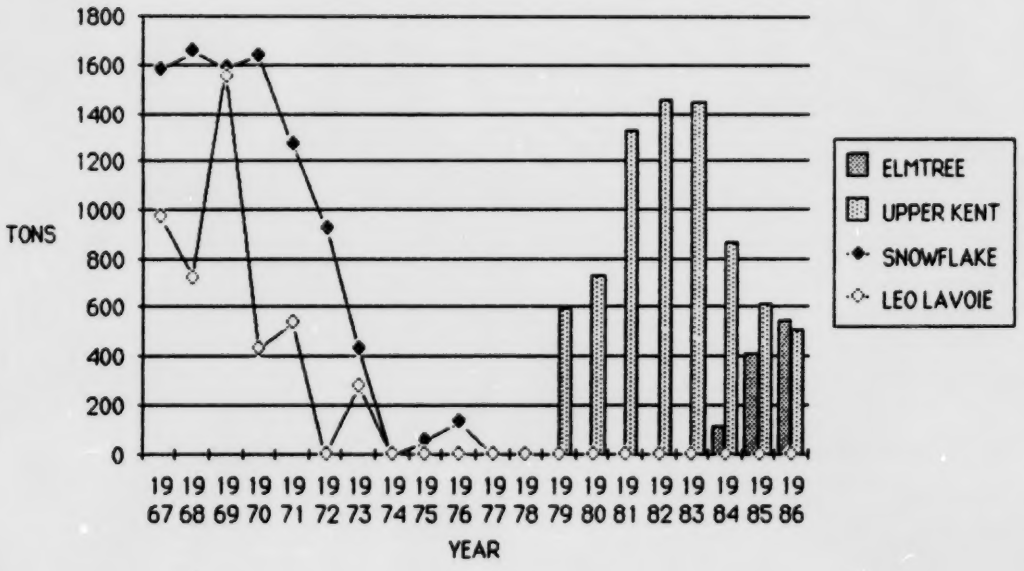
Cumulative sum of SUBSIDIZED AGLIME PRODUCTION
IN N.B. - (NBDOA Ann. Repts. & Files)



Subsidized Shipments of Agricultural Limestone by Elmtree, Upper Kent, Snowflake and Leo Lavoie (Quebec) to N.B. Farmers for Fiscal Years Ending March 31st.

(Source: N.B. Department of Agriculture files)

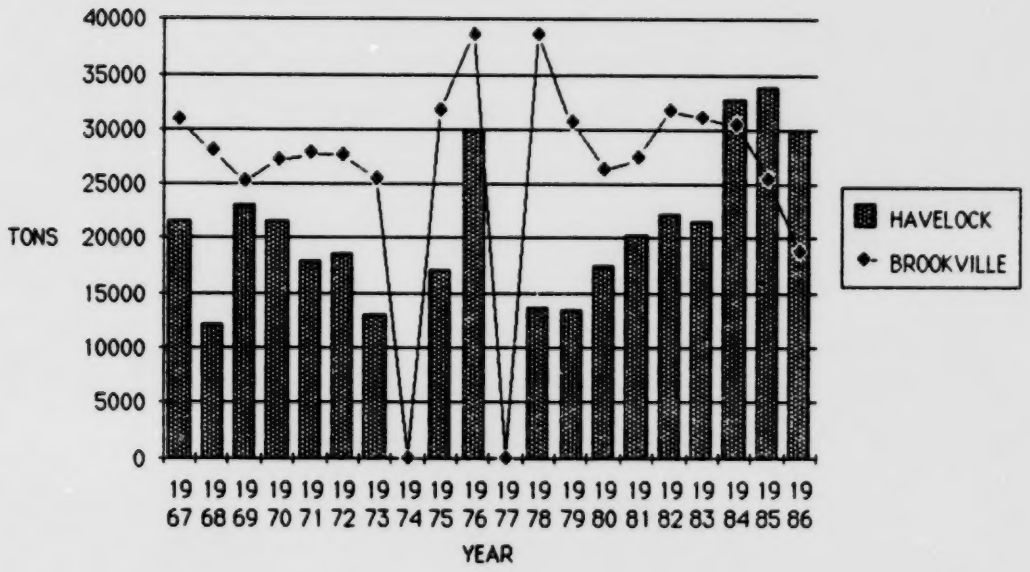
Notes: 1. Data for 1974 and 1977.
2. 1986 data to end January 1986 and preliminary.



Subsidized Shipments of Agricultural Limestone by Brookville and Havelock for Fiscal Years Ending March 31st.

(Source: N.B. Department of Agriculture files)

Notes: 1. Data for 1974 and 1977.
2. 1986 data to end January 1986 and preliminary.



SUBSIDIZED AGRICULTURAL LIMESTONE SHIPMENTS TO
NEW BRUNSWICK FARMERS BY COMPANY OF ORIGIN
(Source: N.B. Department of Agriculture files)

FISCAL YEAR	HAVELOCK (tons)	ELMTREE (tons)	LEO LAVOIE MINES (tons)	BROOKVILLE (tons)	SNOWFLAKE (tons)	UPPER KENT (tons)	TOTAL (tons)
1966-7	21,615	-	972	30,892	1,581	-	55,059
1967-8	12,230	-	725	28,071	1,656	-	42,682
1968-9	23,061	-	1,551	25,230	1,587	-	51,429
1969-70	21,496	-	435	27,228	1,637	-	50,796*
1970-1	17,890	-	534	27,783	1,272	-	47,480
1971-2	18,566	-	no ref	27,517	927	-	47,010
1972-3	13,015	-	277	25,463	428	-	39,185
1973-4	(record not discovered)					-	44,020
1974-5	17,141	-	no ref	31,672	54	-	48,866
1975-6	29,925	-	no ref	38,494	129	-	68,548
1976-7	(record not discovered)					-	78,400
1977-8	13,688	-	-	38,616	-	-	52,304
1978-9	13,523	-	-	30,637	-	599	44,759
1979-80	17,498	-	-	26,420	-	727	44,645
1980-1	20,199	-	-	27,343	-	1,332	48,874
1981-2	22,169	-	-	31,779	-	1,458	55,406
1982-3	21,599	-	-	30,990	-	1,444	54,033
1983-4	32,698	115	-	30,310	-	869	63,992
1984-5	33,747	409	-	25,563	-	616	60,335
1985-6 (P)	29,928	548	-	18,723	-	509	49,708

*Plus 7,253 tons of limestone paper mill sludge.

LIME TONNAGE SOLD
(tonnes)
1983 - 1984

	HAVELOCK	BROOKVILLE	UPPER KENT	ELMTREE
Albert	746.73	---	---	---
Carleton	7,006.66	11,094.94	788.70	---
Charlotte	---	303.88	---	---
Gloucester	148.15	133.39	---	104.32
Kent	2,328.48	871.72	---	---
Kings	4,247.48	1,181.71	---	---
Madawaska	1,427.53	2,567.48	---	---
Northumberland	667.30	251.08	---	---
Queens	899.23	276.57	---	---
Restigouche	800.17	1,829.48	---	---
Sunbury	541.90	328.45	---	---
St. John	---	71.00	---	---
Victoria	5,150.01	6,358.32	---	---
Westmorland	3,721.45	892.50	---	---
York	1,978.32	1,336.92	---	---
	29,663.41	27,497.44	788.70	104.32

GRAND TOTAL OF ALL LIME COMPANIES = 58,053.87

LIME TONNAGE SOLD
(tonnes)
1984 - 1985

	Havelock	Brookville	Upper Kent	Elmtree
Albert	1,119.70	---	---	---
Carleton	5,546.87	11,529.65	519.00	---
Charlotte	---	935.57	---	---
Gloucester	53.43	180.97	---	371.30
Kent	3,047.37	288.57	---	---
Kings	4,113.33	1,194.08	---	---
Madawaska	1,285.32	966.20	---	---
Northumberland	1,057.86	801.49	---	---
Queens	451.50	373.99	---	---
Restigouche	353.92	1,512.06	---	---
Sunbury	516.55	248.99	---	---
St. John	---	92.04	---	---
Victoria	7,326.97	3,731.66	40.00	---
Westmorland	3,938.06	475.42	---	---
York	1,803.72	860.11	---	---
	30,614.60	23,790.70	559.00	371.30

Grand Total of all Lime Companies - 54,735.60

LIMESTONE SUBSIDY PROGRAM

Company	Subsidy Paid	Tons
	1979 - 1980	
Havelock Lime Works Ltd.	$ 96,492.78	17,498.0
Brookville Mftg. Co.	189,052.77	26,420.2
Upper Kent Lime Works	1,732.50	727.0
TOTAL	$287,278.05	44,645.2
	1978 - 1979	
Havelock Lime Works Ltd.	$ 55,307.58	13,522.6
Brookville Mftg. Co.	213,836.31	30,637.4
Upper Kent Lime Works	1,879.60	599.0
TOTAL	$271,023.49	44,759.0
	1977 - 1978	
Havelock Lime Works Ltd.	$ 45,363.37	13,688.0
Brookville Mftg. Co.	221,413.42	38,616.3
Upper Kent Lime Works	---	---
TOTAL	$266,776.79	52,304.3

LIMESTONE SUBSIDY PROGRAM

VOLUME OF LIME SOLD

	Tons
1976-1977	78,399.65
1977-1978	47,244.40
1978-1979	44,759.00
1979-1980	44,645.20
1980-1981	48,874.10
1981-1982	55,405.51

SUBSIDY PAID

1980-1981

	$	Tons
Havelock	127,813.76	20,198.70
Brookville	214,496.80	27,343.40
Upper Kent	3,688.56	1,332.00
	$345,999.12	48,874.10

1981-1982

	$	Tons
Havelock	143,560.08	22,168.92
Brookville	242,765.07	31,778.59
Upper Kent	4,061.88	1,458.00
	$390,387.03	55,405.51

LIMESTONE SUBSIDY PROGRAMME

(1980-1)	Tons	$
Albert	553.5	2,134.02
Carleton	1625.31	116,982.11
Charlotte	221.0	1,281.09
Gloucester	71.76	6,492.00
Kent	4337.1	29,497.59
Kings	3424.1	10,797.58
Madawaska	2821.7	25,317.66
Northumberland	1526.2	10,241.85
Queens	1218.4	5,297.67
Restigouche	974.5	7,295.19
Sunbury	1036.2	4,991.64
St. John	107.1	187.52
Victoria	10,648.7	96,337.38
Westmorland	3281.4	17,661.29
York	1753.5	11,482.53
	48,874.1	346,322.41

LIME SUBSIDY PROGRAM

1982- 1983

	Truck		Rail	
	$	Ton	$	Ton
Havelock	136,886.22	21,598.54	---	---
Brookville	155,519.61	21,054.84	87,560.13	9,934.94
Upper Kent	4,029.66	1,444.00	---	---
	$296,435.49	44,097.38	$87,560.13	9,934.94

LIME SUBSIDY PROGRAM

1984 - 1985

	Truck		Rail	
	$	Tonne	$	Tonne
Havelock	131,931.89	22,741.94	66,923.55	7,872.66
Brookville	66,408.92	9,576.22	111,507.28	13,614.48
Upper Kent	1,616.84	559.00	---	---
Elmtree	1,291.46	371.30	---	---
	201,249.11	33,248.46	178,430.83	21,487.14

Grand Totals	$	Tonne
Havelock	198,855.44	30,614.60
Brookville	177,916.20	23,190.70
Upper Kent	1,616.84	559.00
Elmtree	1,291.46	371.30
	379,679.94	54,735.60

LIME SUBSIDY PROGRAM

1983 - 1984

	Truck		Rail	
	$	Tonne	$	Tonne
Havelock	169,145.32	25,725.38	25,602.24	3,938.03
Brookville	95,931.33	12,124.21	116,667.18	15,373.23
Upper Kent	2,178.43	788.70	---	---
Elmtree	552.69	104.32	---	---
	267,807.77	38,742.61	142,269.42	19,311.26

GRAND TOTALS	$	TONNE
Havelock	194,747.56	29,663.41
Brookville	212,598.51	27,497.44
Upper Kent	2,178.43	788.70
Elmtree	552.69	104.32
	410,077.19	58,053.87

1980 - 1981

LIME TONNAGE SOLD

Havelock

Albert	504.00
Carleton	3,143.50
Charlotte	16.00
Gloucester	35.20
Kent	1,836.90
Kings	2,915.40
Madawaska	350.90
Northumberland	1,315.50
Queens	711.40
Restigouche	---
Sunbury	564.50
Saint John	---
Victoria	5,503.20
Westmorland	2,338.80
York	963.40
TOTAL	20,198.70

Brookville

Albert	49.50
Carleton	10,393.60
Charlotte	205.00
Gloucester	682.40
Kent	3,000.80
Kings	508.90
Madawaska	2,561.80
Northumberland	210.70
Queens	569.00
Restigouche	974.50
Sunbury	471.90
Saint John	107.10
Victoria	5,645.50
Westmorland	1,172.60
York	790.10
TOTAL	27,343.40

Upper Kent

Carleton	1,332.00
GRAND TOTAL	48,874.10

1981 - 1982

LIME TONNAGE SOLD

Havelock

Albert	982.58
Carleton	4,337.92
Charlotte	---
Gloucester	56.24
Kent	1,115.63
Kings	3,136.50
Madawaska	931.45
Northumberland	569.03
Queens	670.78
Restigouche	59.40
Sunbury	340.27
Saint John	---
Victoria	5,087.12
Westmorland	3,001.59
York	1,880.41
TOTAL	22,168.92

Brookville

Albert	---
Carleton	10,500.54
Charlotte	217.07
Gloucester	759.74
Kent	1,544.68
Kings	876.26
Madawaska	4,349.06
Northumberland	1,259.38
Queens	202.71
Restigouche	1,258.44
Sunbury	404.70
Saint John	55.19
Victoria	8,155.82
Westmorland	1,188.44
York	1,006.56
TOTAL	31,778.59

Upper Kent

Carleton	1,458.00
GRAND TOTAL	55,405.51

LIME TONNAGE SOLD

1982 - 1983

HAVELOCK

Albert	710.34
Carleton	3,351.43
Charlotte	15.32
Gloucester	46.57
Kent	1,062.14
Kings	4,323.57
Madawaska	349.66
Northumberland	728.63
Queens	369.95
Restigouche	79.17
Sunbury	282.64
St. John	---
Victoria	6,259.07
Westmorland	2,440.11
York	1,579.91
TOTAL	21,598.54

BROOKVILLE

Albert	---
Carleton	10,249.12
Charlotte	649.82
Gloucester	302.10
Kent	1,696.31
Kings	1,202.62
Madawaska	3,717.87
Northumberland	2,517.92
Queens	275.98
Restigouche	1,497.04
Sunbury	404.21
Saint John	50.96
Victoria	6,229.34
Westmorland	852.48
York	1,344.01
TOTAL	30,989.78

UPPER KENT

Carleton	1,344.00
Victoria	100.00
TOTAL	1,444.00
GRAND TOTAL	54,032.32

NEW BRUNSWICK AGRICULTURAL LIME SUBSIDY -
BY TRANSPORTATION MODE AND MONTH FOR 1984-5
(Source: N.B. Department of Agriculture files)

Month	Rail (tonnes)	Assist $	Trade (tonnes)	Assist $	Total (tonnes)
APR 01, 1984 - APR 30, 1984	1,136	9,325	203	884	1,339
MAY 01, 1984 - MAY 31, 1984	8,783	73,045	9,097	56,668	17,881
JUN 01, 1984 - JUN 30, 1984	603	5,070	4,431	26,299	5,035
JUL 01, 1984 - JUL 31, 1984	-	-	792	4,664	792
AUG 01, 1984 - AUG 31, 1984	1,672	13,923	2,735	14,826	4,408
SEP 01, 1984 - SEP 30, 1984	1,299	10,989	3,032	17,625	4,331
OCT 01, 1984 - OCT 31, 1984	2,773	22,675	8,345	53,028	11,118
NOV 01, 1984 - NOV 30, 1984	3,371	27,851	3,902	21,075	7,273
DEC 01, 1984 - DEC 31, 1984	1,775	14,957	710	6,180	6,180
JAN 01, 1985 - JAN 31, 1985	74	595	-	-	74
FEB 01, 1985 - FEB 29, 1985	-	-	-	-	-
MAR 01, 1985 - MAR 31, 1985	-	-	-	-	-

NEW BRUNSWICK DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT
BREAKDOWN OF LIME SHIPMENTS AS TO MODE OF TRANSPORTATION
APRIL 1-70 TO MARCH 30-71

	BROOKVILLE			HAVELOCK			SNOWFLAKE			TOTALS		
MONTH	TOTAL TONS	RAIL	TRUCK	TOTAL TONS	RAIL	TRUCK	TOTAL TONS	RAIL	TRUCK	TOTAL TONS	RAIL	TRUCK
APR	4,583	4,438	145	531	315	215	84	-	84	5,197	4,754	443
MAY	11,812	10,107	1,705	5,921	646	5,275	521	327	194	18,254	11,080	7,173
JUN	6,664	5,397	1,267	5,600	192	5,408	-	-	-	12,263	5,589	6,674
JUL	802	672	130	593	94	499	69	-	69	1,465	766	699
AUG	423	342	81	955	130	826	21	-	21	1,399	472	927
SEP	791	634	158	1,055	-	1,055	35	-	35	1,881	634	1,247
OCT	1,135	844	291	1,981	147	1,834	62	-	62	3,178	991	2,187
NOV	1,383	1,117	266	1,131	162	970	103	55	48	2,617	1,334	1,283
DEC	49	-	49	13	-	13	-	-	-	62	-	62
JAN	2	-	2	5	-	5	5	-	5	11	-	11
FEB	14	-	14	1	-	1	1	-	1	16	-	16
MAR	125	40	85	104	60	44	6	-	6	235	100	135
*TOTALS	27,783	23,592	4,191	17,890	1,746	16,144	1,272	382	890	46,945	25,720	21,225

*(Numbers may not add to total due to rounding)

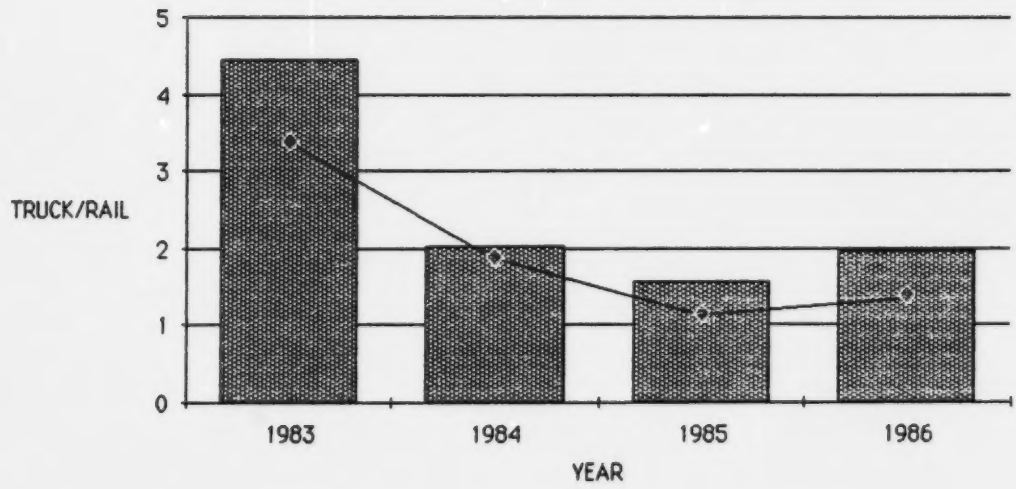
NEW BRUNSWICK DEPARTMENT OF AGRICULTURE
LIME SUBSIDY
ASSISTANCE REPORT
APRIL 1, 1984 TO MARCH 31, 1985

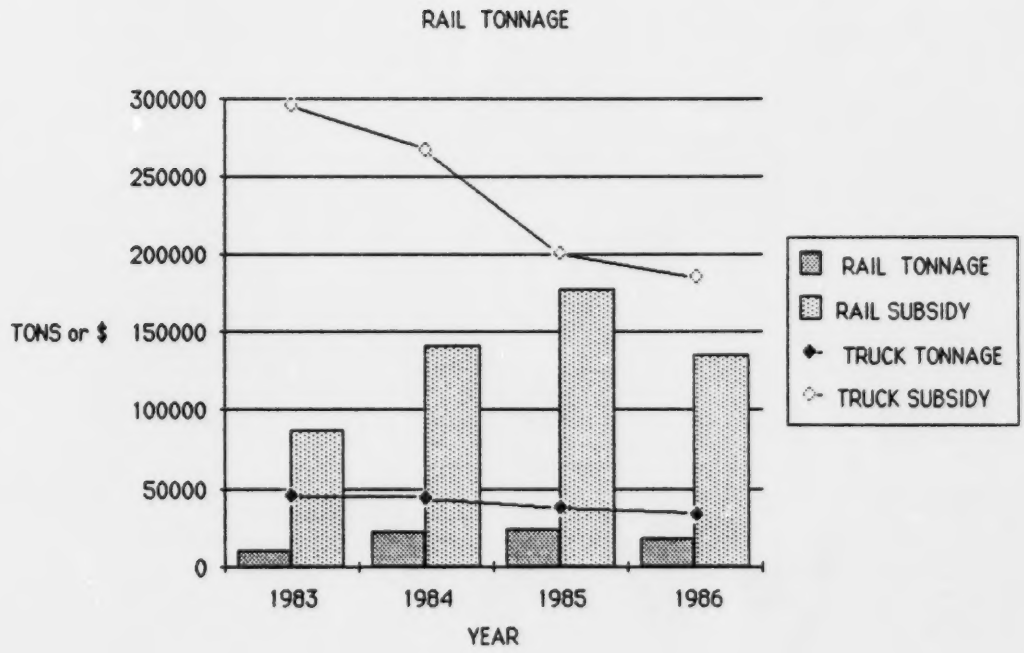
COMPANY	TRUCK TONNE	TRUCK ASSISTANCE	RAIL TONNE	RAIL ASSISTANCE
BROOKVILLE				
ALBERT	-	$ -	-	$ -
CARLETON	3,801	32,399	7,720	60,999
CHARLOTTE	936	4,954	-	-
GLOUCESTER	181	1,636	-	-
KENT	289	2,131	-	-
KINGS	1,194	3,619	-	-
MADAWASKA	-	-	966	8,336
NORTHUMBERLAND	802	6,926	-	-
QUEENS	374	1,607	-	-
RESTIGOUCHE	30	270	1,482	13,399
SUNBURY	249	1,050	-	-
ST. JOHN	92	269	-	-
VICTORIA	314	2,840	3,417	28,628
WESTMORLAND	475	1,418	-	-
YORK	840	5,293	20	145
TOTAL	9,576	$ 66,409	13,614	$111,507
ELMTREE RES.				
GLOUCESTER	371	$ 1,292	-	$ -
TOTAL	371	$ 1,292	-	$ -
HAVELOCK				
ALBERT	1,120	$ 4,950	-	$ -
CARLETON	5,228	46,208	319	2,516
GLOUCESTER	-	-	53	424
KENT	3,047	14,685	-	-
KINGS	4,113	13,480	-	-
MADAWASKA	77	694	1,209	10,394
NORTHUMBERLAND	1,053	6,546	-	-
QUEENS	452	1,867	-	-
RESTIGOUCHE	86	781	268	2,419
SUNBURY	517	2,592	-	-
VICTORIA	1,303	11,778	6,024	51,171
WESTMORLAND	3,938	16,648	-	-
YORK	1,804	11,703	-	-
TOTAL	22,742	$131,932	7,873	$ 66,924
UPPER KENT				
CARLETON	519	$ 1,490	-	$ -
VICTORIA	40	127	-	-
TOTAL	559	$ 1,617	-	$ -
GRAND TOTAL	33,249	$201,249	21,487	$178,431

NEW BRUNSWICK DEPARTMENT OF AGRICULTURE
LIME SUBSIDY
ASSISTANCE REPORT
APRIL 1, 1985 TO JANUARY 10, 1986

COMPANY	TRUCK TONNE	TRUCK ASSISTANCE	RAIL TONNE	RAIL ASSISTANCE
BROOKVILLE				
ALBERT	-	$ -	-	$ -
CARLETON	2,302	19,893	4,401	37,509
CHARLOTTE	126	645	-	-
GLOUCESTER	62	562	-	-
KENT	934	7,760	-	-
KINGS	794	2,723	-	-
MADAWASKA	-	-	1,531	13,954
NORTHUMBERLAND	450	4,043	-	-
QUEENS	493	2,393	-	-
RESTIGOUCHE	15	134	961	9,788
SUNBURY	310	1,315	-	-
ST. JOHN	15	42	-	-
VICTORIA	785	7,607	2,012	17,685
WESTMORLAND	523	3,893	-	-
YORK	1,207	7,804	63	461
TOTAL	8,016	$ 58,801	8,969	$ 79,397
ELMTREE RES.				
GLOUCESTER	247	$ 881	-	$ -
RESTIGOUCHE	251	909	-	-
TOTAL	498	$ 1,790	-	$ -
HAVELOCK				
ALBERT	1,091	$ 5,067	-	$ -
CARLETON	5,982	53,562	203	1,612
GLOUCESTER	-	-	-	-
KENT	2,811	13,457	-	-
KINGS	3,771	12,326	-	-
MADAWASKA	-	-	639	5,543
NORTHUMBERLAND	421	2,678	-	-
QUEENS	429	1,946	-	-
RESTIGOUCHE	-	-	207	1,875
SUNBURY	396	2,116	-	-
VICTORIA	1,104	10,140	5,290	46,773
WESTMORLAND	3,807	15,748	-	-
YORK	1,000	6,560	-	-
TOTAL	20,812	$123,600	6,339	$ 55,802
UPPER KENT				
CARLETON	462	$ 1,327	-	$ -
VICTORIA	-	-	-	-
TOTAL	462	$ 1,327	-	$ -
GRAND TOTAL	29,787	$185,518	15,308	$135,199

RATIO (BARS) OF TRUCK TO RAIL TONNAGE OF SUBSIDIZED AGLIME SHIPMENTS FOR YEARS ENDING MARCH 31 COMPARED WITH RATIO (LINE) OF TRUCK TO RAIL SUBSIDY (NBDOA Files)




RAIL TONNAGE
300000
250000
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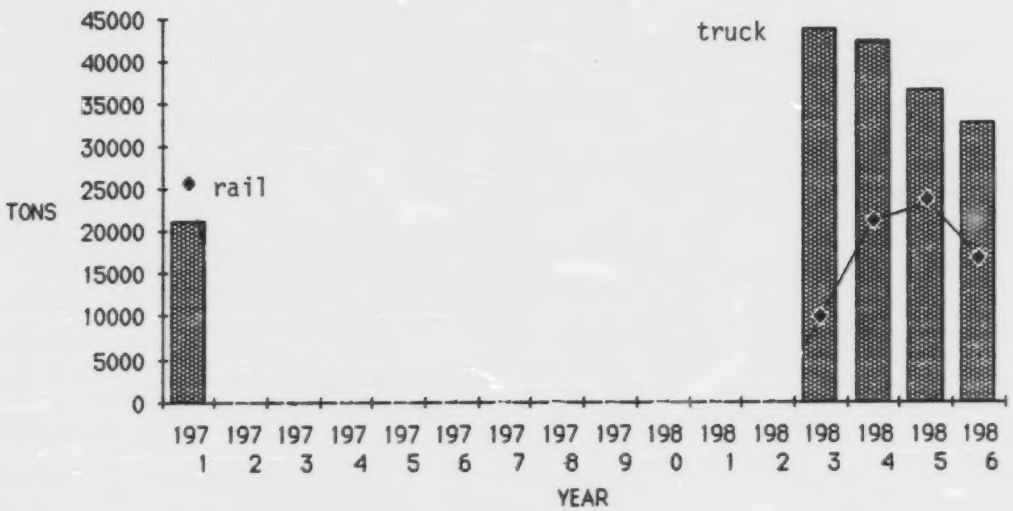
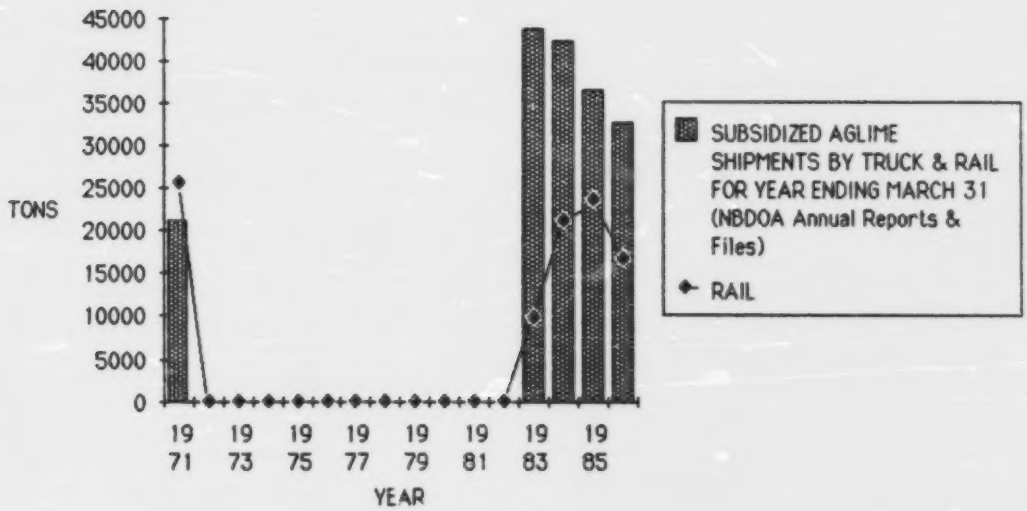
0
TONS or $
1983
1984
1985
1986
YEAR
RAIL TONNAGE
RAIL SUBSIDY
TRUCK TONNAGE
TRUCK SUBSIDY

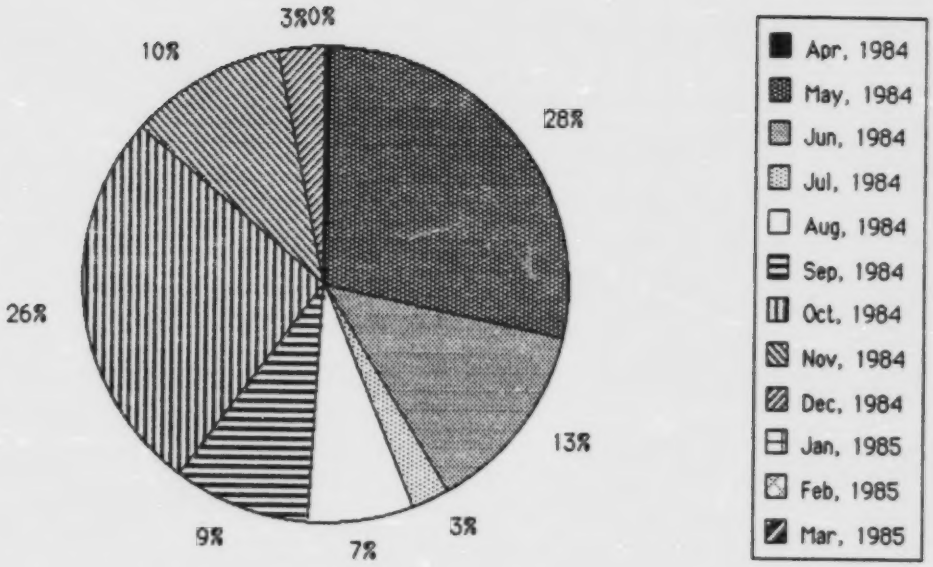
SUBSIDIZED AGLIME SHIPMENTS BY TRUCK & RAIL
FOR YEAR ENDING MARCH 31 (NBDOA Annual
Reports & Files)



SUBSIDIZED AGLIME SHIPMENTS BY TRUCK & RAIL FOR YEAR ENDING MARCH 31 (NBDOA Annual Reports & Files)



TRUCK


3%0%
10%
28%
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Apr, 1984
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Oct, 1984
Nov, 1984
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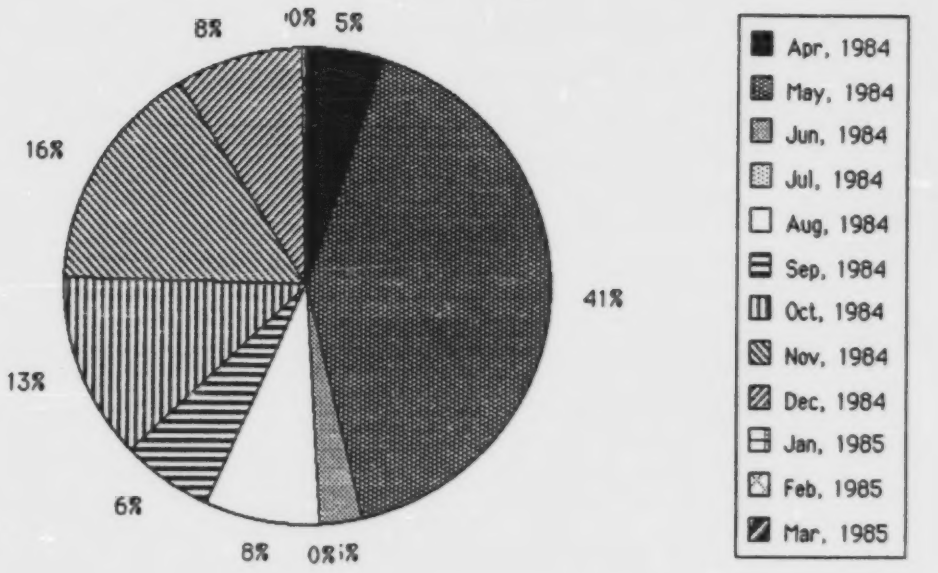
Jan, 1985
Feb, 1985
Mar, 1985

RAIL


8%
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16%
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8%
0%
Apr, 1984
May, 1984
Jun, 1984
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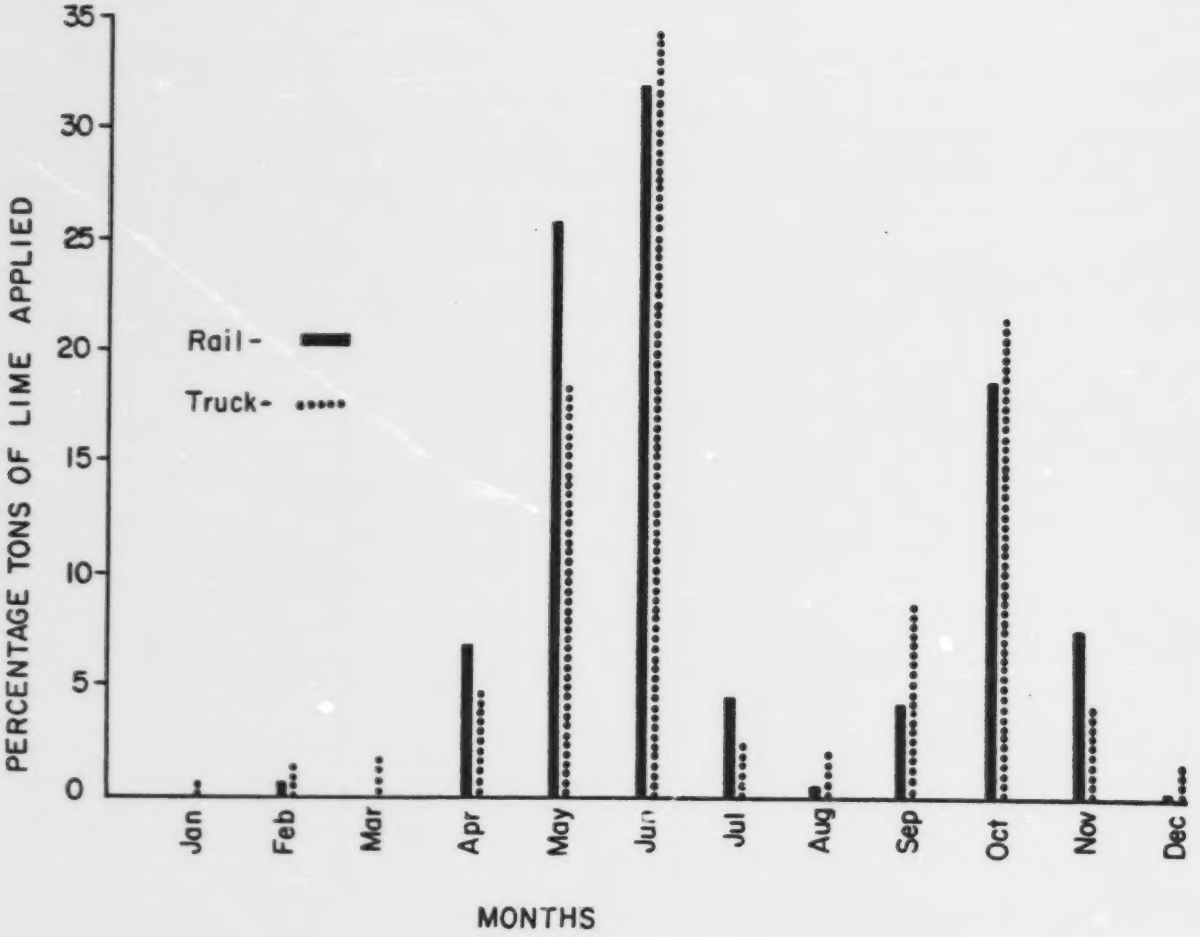
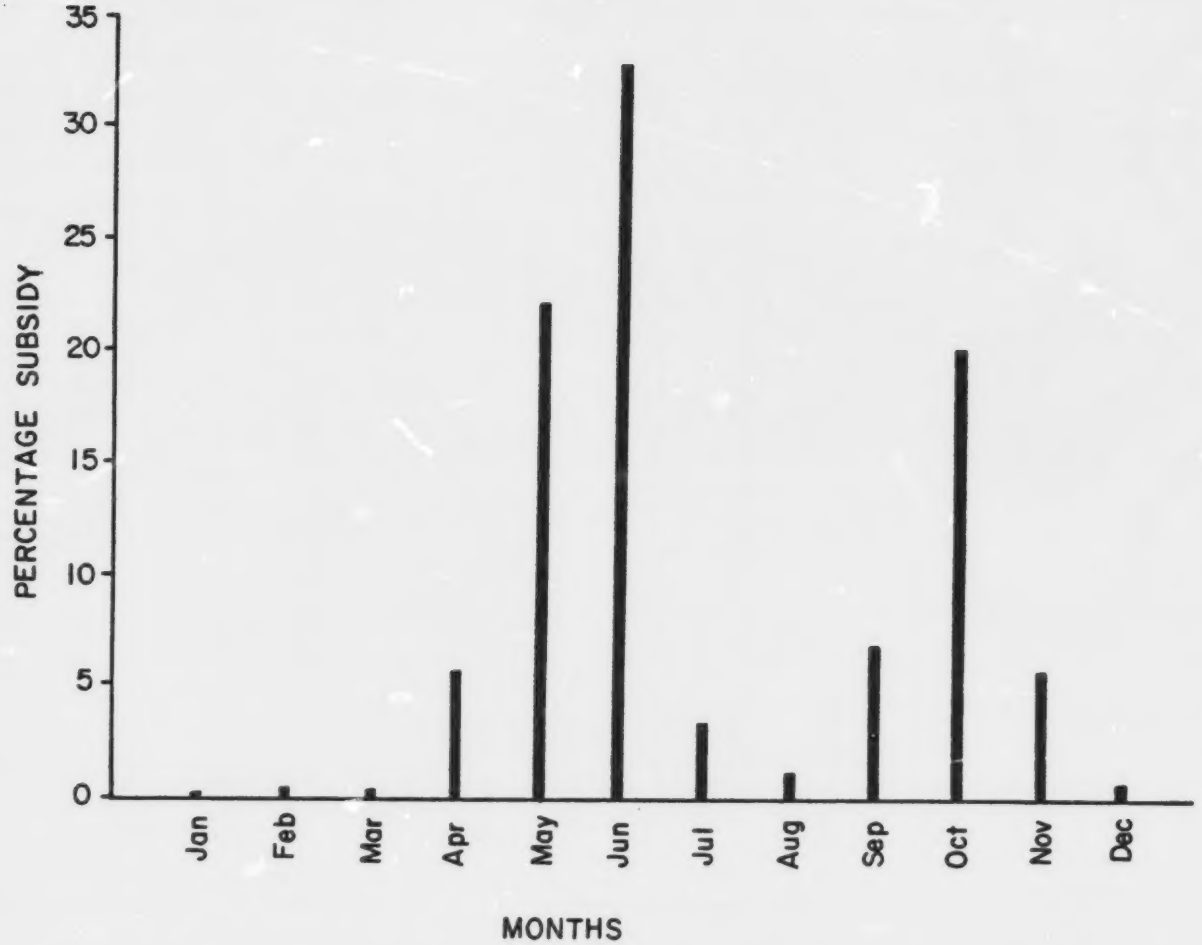
Sep, 1984
Oct, 1984
Nov, 1984
Dec, 1984
Jan, 1985
Feb, 1985
Mar, 1985

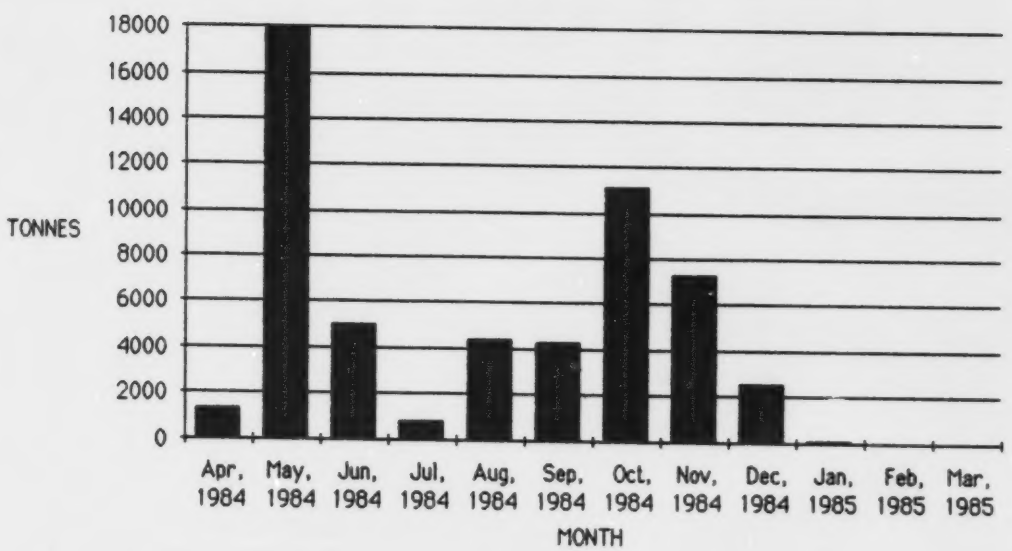
N.B. LIMESTONE SALES 1973



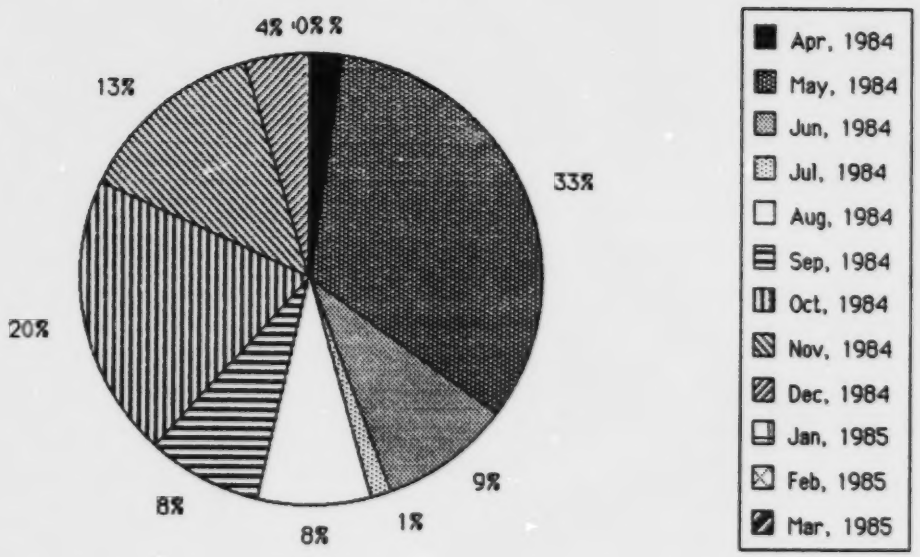
N.B. LIMESTONE SUBSIDIES 1973

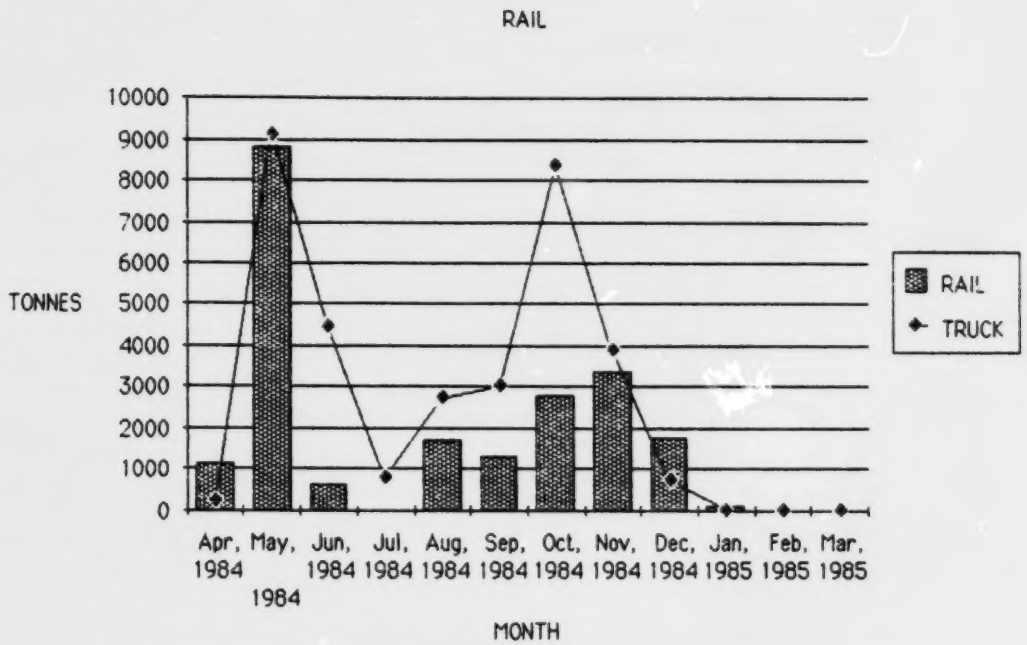


SUBSIDIZED AGLIME SHIPMENTS BY MONTH FOR
FISCAL YEAR 1984-5 (NBDOA Files)



SUBSIDIZED AGLIME SHIPMENTS BY MONTH FOR
FISCAL YEAR 1984-5 (NBDOA Files)




RAIL
10000
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7000
6000
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1000
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TONNES
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TRUCK
Apr, 1984
May, 1984
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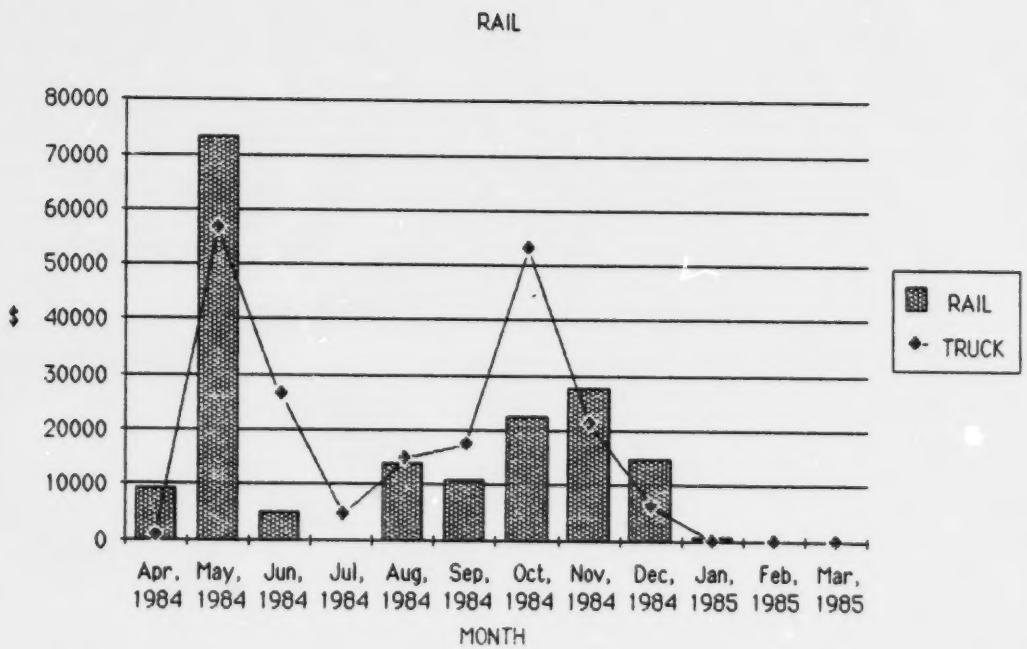
Sep, 1984
Oct, 1984
Nov, 1984
Dec, 1984
Jan, 1985
Feb, 1985
Mar, 1985
MONTH


RAIL
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RAIL
TRUCK
Apr, 1984
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Nov, 1984
Dec, 1984
Jan, 1985
Feb, 1985
Mar, 1985
MONTH

APPENDIX II

1985 Price Lists for Havelock and Brookville Agricultural Limestone Products as well as Typical Chemical and Physical Properties

1985 PRICE LIST

EFFECTIVE FROM APRIL 1, 1985

Agricultural Limestone

Bulk

Dry Bulk	-	$13.50 per tonne
Damp Bulk	-	13.50 per tonne

Bagged 40kg

1 - 8 Tonne	-	38.00 per tonne
9 - 17 Tonne	-	35.00 per tonne
18 - and Over	-	30.50 per tonne
Per Bag	-	2.00 (all sizes)
Fertilizer Filler	-	16.50 per tonne

HAVELOCK LIME WORKS LTD.

HAVELOCK, N.B.

GROUND MAGNESIUM LIMESTONE

MINIMUM CALCIUM	25%
MINIMUM MAGNESIUM	3%
MINIMUM NEUTRILIZING VALUE	90
PASS 100 MESH TYLER SCREEN	50%
PASS 10 MESH TYLER SCREEN	99%

PRODUCT PREPARED FOR DEPARTMENT OF RURAL, AGRICULTURAL AND NORTHERN DEVELOPMENT.

HAVELOCK LIME WORKS LTD.

HAVELOCK, N. B.

GROUND CALCITIC LIMESTONE

MINIMUM CALCIUM	30%
MINIMUM NEUTRILIZING VALUE	90
PASS 100 MESH TYLER SCREEN	50%
PASS 10 MESH TYLER SCREEN	99%

HAVELOCK LIME WORKS LTD.

P.O.Box 59, Havelock, N.B. E0A 1W0

PHONE: 534-2311 TELEX: 014-2651

Typical Aglime
Chemical Analysis
1985

	Magnesium Aglime	Calcitic Aglime
Calcium (Elemental)	31.87%	37.39%
Calcium As CaO	44.89%	52.66%
Magnesium (Elemental)	5.23%	0.27%
Magnesium As Mgo	8.72%	0.37%
Total Neutralizing Value	97.86%	93.74%

BROOKVILLE MANUFACTURING COMPANY
P.O. BOX 2332
SAINT JOHN, N.B., E2L 3V6
TELEPHONE (506) 696-3200
TELEX 014-47298

PRICE LIST

MILL PRODUCTS 1985

EFFECTIVE APRIL 1, 1985

LIME - Bulk - Dry		$14.50/Metric Tonne
- Conditioned		13.75/Metric Tonne
Bags - 40 Kgs.		34.25/Metric Tonne 1.37
20 Kgs.		48.25/Metric Tonne
Grit		17.00/Metric Tonne

SMALL ORDERS

40 Kg. Bags	1 - 6 Bags	$3.85/Bag
	7 - 13 Bags	3.55/Bag
	14 - 19 Bags	3.25/Bag
	20 - 24 Bags	2.95/Bag
20 Kg. Bags	1 - 10 Bags	2.55/Bag
	11 - 20 Bags	2.45/Bag
	21 - 30 Bags	2.35/Bag
	31 - 40 Bags	2.25/Bag
	41 - 49 Bags	2.15/Bag

ALL PRICES F. O. B. BROOKVILLE PLANT

DOLOMITIC LIMESTONE

BROOKVILLE MANUFACTURING COMPANY
P.O. BOX 2332
SAINT JOHN, N.B. E2L 3V6
TELEPHONE (506) 696-3200
TELEX 014-47298

U. S.

PRICE LIST

MILL PRODUCTS 1985

EFFECTIVE APRIL 1, 1985

LIME - Bulk - Dry		$13.15/TON
	- Conditioned	12.50
Bags - 88 lbs		31.10
	44 lbs	43.80
GRIT - Bulk		15.45

ALL PRICES QUOTED ARE IN CANADIAN FUNDS
F. O. B. SAINT JOHN.

P.E.I. DEPARTMENT OF AGRICULTURE AND FORESTRY

SPECIAL ANALYSIS REPORT

Soil and Feed Test Lab.

Analysis Requested by: Tom Driscoll
P.O. Box 81
Rothesay, N.B. E0G 2W0

Purpose of Analysis: Limestone

BOB LATEST 3 SAMPLES

RESULTS

Sample Description	% Ca	% CaCo3 (Calcium Carbonate)	% Mg	% MgCo3 (Magnesium Carbonate)		Neutralizing Value	
Limestone (4/09/85)	23.6	59.0	11.53	40.0		99.0%	
SIEVE ANALYSIS							
% Retained on #10 Mesh		0.03					
% Retained on #40 Mesh		31.61					
% Retained on #100 Mesh		54.01					
% Passed thru #100 Mesh		14.35					
TOTAL		100.00					

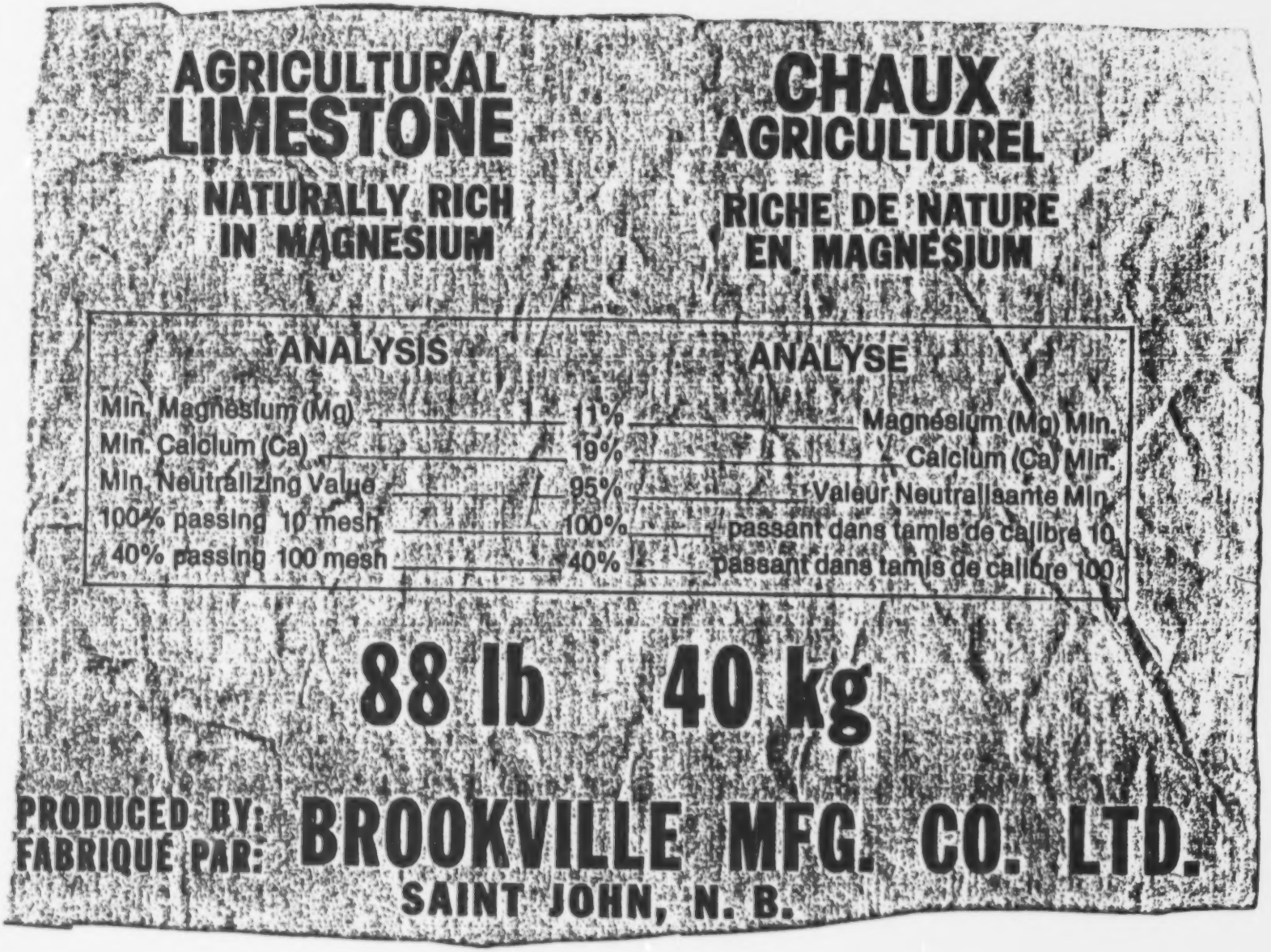
COMMENTS:

AREA - E
LEET - 3

Date: September 11, 1985

Analyst: Staff

Lab Supervisor


AGRICULTURAL
LIMESTONE
NATURALLY RICH
IN MAGNESIUM
CHAUX
AGRICULTUREL
RICHE DE NATURE
EN MAGNÉSIUM
ANALYSIS
Min. Magnesium (Mg) 11%
Min. Calcium (Ca) 19%
Min. Neutralizing Value 95%
100% passing 10 mesh 100%
40% passing 100 mesh 40%
ANALYSE
Magnésium (Mg) Min.
Calcium (Ca) Min.
Valeur Neutralisante Min.
passant dans tamis de calibre 10
passant dans tamis de calibre 100
88 lb 40 kg
PRODUCED BY:
FABRIQUÉ PAR:
BROOKVILLE MFG. CO. LTD.
SAINT JOHN, N. B.

APPENDIX III

Statistics on Agricultural Limestone and Fertilizer Consumption in the Atlantic Provinces - Compiled by the Atlantic Fertilizer Institute

The Atlantic Fertilizer Institute
Box 2920, Charlottetown, Prince Edward Island C1A 8C5

December 6, 1985

Mr. Dallas Davis
407 Dufferin Street
Fredericton, N.B.
E3B 3A8

Dear Mr. Davis:

Further to our telephone conversation this morning, I attach for your information:

A) Agricultural limestone sales statistics, by province for the years ending June 30/82-5 inclusive.

B) Detailed fertilizer sales statistics, by province, for the years ending June 30/84-5 inclusive.

C) Copy current mailing list of Active members for your confidential use.

Historic background to Atlantic fertilizer consumption is as follows:

	Tonnes					
Year	N.B.	N.S.	Nflnd.	P.E.I.	Total	Plant food Units
1980	51,259	31,828	4,418	51,714	139,219	5,954,651
1975	53,059	29,801	6,208	44,950	134,018	5,451,681
1970	64,219	34,408	4,009	52,591	155,227	6,342,593
1965	72,307	31,648	4,646	54,705	163,108	5,189,364
1960	61,920	24,278	4,478	48,946	139,622	3,806,538

In assessing the volume of fertilizer consumption, the 'plant food units',as opposed to 'tonnage' is the significant figure.

....2.....

The Atlantic Fertilizer Institute
Box 2920, Charlottetown, Prince Edward Island C1A 8C5

-2-
Mr. Dallas Davis
407 Dufferin Street
Dec.6/85

In 1960, the average units per tonne was 27.3 as opposed to 43.7 units in 1985, a 60% increase in the 25 year period. This increase has been possible due to more concentrated raw materials and the decreasing use of 'filler' in blended fertilizers.

Trust this is the information you require.

Yours very truly

I.R. Rankin
Secretary
IRR/ll
Encl: 3

The Atlantic Fertilizer Institute
Box 2920, Charlottetown, Prince Edward Island C1A 8C5

TO: See below

FROM: I. R. Rankin, Secretary

SUBJECT: Agricultural Limestone Sales
Atlantic Provinces
Year ending, June 30/85

On the basis of figures supplies by the producers of Agricultural limestone, (Brookville, Elmtree, Havelock, Hawke and Mosher) the following statistics have been compiled:

Province	1985	1984	% change
New Brunswick	79,094	75,142	+5.3%
Newfoundland	5,943	7,556	-21.3%
Nova Scotia	82,263	74,564	+10.3%
Prince Edward Island	67,505	63,568	+ 6.2%
Total Tonnes	234,805	220,830	+ 6.3%

Distribution - Producers Agricultural Limestone
- Deputy Ministers Agriculture (Atlantic Provinces)
- Directors, Research Stations (" ")
- Directors, Soil Laboratories (" ")
- Members, Atlantic Fertilizer Institute

The Atlantic Fertilizer Institute
Box 2920, Charlottetown, Prince Edward Island C1A 8C5

July 27, 1984

TO: See Below

FROM: I. R. Rankin, Secretary

SUBJECT: Agricultural Limestone Sales
Atlantic Provinces
Year ending, June 30/84

The following statistics are compiled on the basis of figures supplied by the producers of Agricultural Limestone in the Atlantic provinces. Brookville, Elmtree, Hawke, Havelock and Mosher)

Province	1984	1983	% change
New Brunswick	75,142	61,948	+ 21.3%
Newfoundland	7,556	4,972	+ 52. %
Nova Scotia	74,564	83,637	- 10.2%
Prince Edward Island	63,568	62,281	+ 2. %
Total Tonnes	220,830	212,838	+ 3.8 %

Distribution:

Producers, Agricultural Limestone
Deputy Ministers of Agriculture (Atlantic provinces)
Directors, Research Stations (" ")
Directors, Soil Laboratories (" ")
Members, Atlantic Fertilizer Institute

MARITIME PLANT FOOD PRODUCERS INCORPORATED

P.O. BOX 2920
CHARLOTTETOWN, P.E.I.
C1A 8C5

July 18, 1983

FROM: I. R. Rankin, Secretary

SUBJECT: Agricultural Limestone Sales
Atlantic Provinces
Year Ending June 30/83

On the basis of figures supplied by the producers of Agricultural Limestone in Atlantic Canada, (Brookville, Havelock, Hawke, & Mosher) the following statistics have been compiled:

	Tonnes		
Province	1983	1982	% Change
New Brunswick	61,948	58,286	+ 6%
Newfoundland	4,972	3,407	+46%
Nova Scotia	83,637	97,882	-15%
Prince Edward Island	62,281	64,905	- 4%
Total Tonnes	212,838	224,480	- 5%

Distribution:

Agriculture Limestone Producers

Deputy Ministers Agriculture, Atlantic provinces

Directors, Research Stations CDA, Atlantic provinces

Directors, Soil Laboratories, Atlantic provinces

Secretary, Atlantic Soil Fertility Committee

Members MPFP

The Atlantic Fertilizer Institute
Box 2920, Charlottetown, Prince Edward Island C1A 8C5

August 13, 1985

TO: See distribution below

FROM: I.R. Rankin, Secretary

SUBJECT: Fertilizer Sales Statistics
Atlantic Provinces
Years ending June 30/85 & '84

The attached statistics have been prepared on the basis of information supplied by the mixed fertilizer manufacturing plants in Atlantic Canada on a basis consistent with that used in former years.

Distribution:
Members of AFI
Deputy Ministers of Agriculture, Atlantic provinces
Directors, Agriculture Canada Research Stations (Atlantic)
Directors, Soil Labratories, Atlantic provinces
Secretary, Atlantic Soil Fertility Committee

ATLANTIC PROVINCES

FERTILIZER SALES SUMMARY

YEARS ENDING JUNE 30/85 & '84

	1985	1984	Difference	% Difference
N.B. Tonnes	52,016	52,376	(360)	(.7%)
Units	2,093,499	2,086,304	7195	.3%
NFLD. Tonnes	3,475	3,517	(42)	(1.2%)
Units	125,918	130,096	(4178)	(3.2%)
N.S. Tonnes	32,326	34,206	(1880)	(5.5%)
Units	1,420,701	1,528,348	(107,647)	(7.1%)
P.E.I. Tonnes	60,354	58,417	1937	3.3%
Units	2,832,422	2,753,017	79,405	2.9%
Total Tonnes	148,171	148,516	(345)	(.2%)
Units	6,472,540	6,497,765	(25,225)	(.4%)

AVERAGE UNITS PER TONNE

	1985	1984
New Brunswick	40.2	39.8
Newfoundland	36.2	37.0
Nova Scotia	43.9	44.6
Prince Edward Island	46.9	47.1
Atlantic Provinces	43.7	43.7

BULK SALES (as percentage of total)

New Brunswick	45.2%	51.2%
Newfoundland	NIl	Nil
Nova Scotia	28.6%	25.1
Prince Edward Island	60.4%	60.9
Atlantic Provinces	46.7%	47.8

As compiled by
Atlantic Fertilizer Institute
Aug. 12/85

NEW BRUNSWICK

FERTILIZER SALES COMPARISON

YEAR ENDING JUNE 30/85 & 84

COMPARISON SUMMARY

	1985	1984	Difference	% Difference
TOTAL TONNES	52,016	52,376	(360)	(.7%)
Units N.	676,068	653,968	22,100	3.4%
Units P.	681,830	677,278	4,552	.7%
Units K.	735,601	755,058	(19,457)	(2.6%)
Total Units	2,093,499	2,086,304	7,195	.3%
Average Units/Tonne	40.2	39.8	.4	1%
Bulk Tonnes	23,508	26,854	(3348)	(12.5%)
% Bulk	45.2%	51.2%	(6%)	(11.7%)

As Compiled by
Atlantic Fertilizer Institute
August 9/85

FERTILIZER SALES COMPARISON

YEARS ENDING JUNE 30/85 & 84

GRADE	1985 TONNES	1984 TONNES
3-24-18T	29	30
4-12-18T	46	56
6-18-18T	38	27
6-24-18T	29	63
Mis. Tobacco	45	44
Total Tobacco	187	220
0-20-20	127	69
3-10-30	--	10
3-15- 6	68	87
4-26-15	--	62
4-30-20	35	--
5-10-30	207	312
5-20-10	--	81
5-20-20	177	481
6-12- 8	28	--
6-12-12	3659	3813
8-12-12	90	--
8-16- 8	182	105
8-16-12	69	--
8-32-12	--	127
10-0-15	--	51
10-0-24	--	31
10-0-30	30	--
10-6- 4	--	142
10-10-10	6297	8078
10-10-15	719	1075
10-10-20	271	294
10-12-12	1811	450
10-15-10	--	80
10-15-15	4402	4762
10-20-10	117	139
10-20-20	1604	1109
12-12-12	30	74
12-12-15	45	32
12-15-15	3446	3907
12-24-24	581	418
12-30-20	70	57
13-13-13	129	--
13-20-20	32	--
14-14-14	85	89
15- 4-28	--	606
15- 5-15	2375	2337
15-10-10	422	167
15-10-15	582	--
15-15-15	17,593	16,748
15-20-10	19	--

FERTILIZER SALES COMPARISON

YEARS ENDING JUNE 30/85 & 84

GRADE	1985	TONNES	1984
16- 8- 8	60		63
17-15-15	38		--
17-15-17	49		--
17-17-17	883		797
17-19-18	47		--
18- 6-18	72		227
18- 9-18	41		66
19-19- 0	181		--
20-10-10	--		66
22-27- 0	53		--
25- 5-10	45		--
Mis. Mix	2390		2796
Total Mix	49,348		50,028
MATERIALS			
Am Nit.	1488		1106
Urea	361		229
Sul. Amm	15		47
Triple	32		85
Potash	495		527
Sulpomag	9		103
18-46- 0	163		157
Mis. Materials	105		94
Total Materials	2668		2348
Total Tonnes	52016		52376

NEWFOUNDLAND

FERTILIZER SALES COMPARISON

YEAR ENDING JUNE 30/85 & 84

COMPARISON SUMMARY

	1985	1984	Difference	% Difference
Total Tonnes	3475	3517	(42)	(1.2%)
Units N.	38,876	39,537	(661)	(1.7%)
Units P.	41,891	42,548	(657)	(1.5%)
Units K.	45,151	48,011	(2860)	(6.0%)
Total Units	125,918	130,096	(4178)	(3.2%)
Average Units / Tonne	36.2	37.0	(.8)	(2.2%)
Bulk Tonnes	--	--	--	--
% Bulk	--	--	--	--

As compiled by:
Atlantic Fertilizer Institute
July 24/85

NEWFOUNDLAND

FERTILIZER SALES COMPARISON

YEAR ENDING JUNE 30/85 & 84

Tonnes

GRADE	1985	1984
3-15-6	194	152
3-18-18	--	76
5-10-30	40	27
6-12- 8	90	199
6-12-12	866	957
8-24-16	60	70
10-10-10	55	58
10-20-20	502	308
12-24-24	--	243
15- 5-15	703	597
15-15-15	90	84
17-17-17	50	--
Mis. Mixed	492	399
TOTAL MIXED	3142	3170
Materials		
Am. Nitrate	227	193
Urea	20	56
Triple	65	20
Mur. Potash	6	20
Mis.Materials	15	58
TOTAL MATERIALS	333	347
TOTAL TONNES	3475	3517

NOVA SCOTIA

FERTILIZER SALES COMPARISON

YEAR ENDING JUNE 30/85 & 84

COMPARISON SUMMARY

	1985	1984	Difference	% Difference
TOTAL TONNES	32,326	34,206	(1880)	(5.5%)
Units N.	502,576	546,645	(44,069)	(8.1%)
Units P.	425,792	447,144	(21,352)	(4.8%)
Units K.	492,333	534,559	(42,226)	(7.9%)
Total Units	1,420,701	1,528,348	(107,647)	(7.1%)
Average Units/Tonne	43.9	44.6	(.7)	(1.6%)
Bulk Tonnes	9241	8603	638	3.5%
% Bulk	28.6%	25.1%	3.5%	13.9%

As compiled by
Atlantic Fertilizer Institute
July 24/85

NOVA SCOTIA

FERTILIZER SALES COMPARISON CONT'D

GRADE	1985 (TONNES)	1984 (TONNES)
24- 4-14	46	--
24- 8- 4	48	--
24- 8-12	53	--
24-10-10	86	59
25- 0-15	--	33
25- 5-19	25	--
29-11- 0	43	--
30- 9- 0	66	--
41- 7- 0	41	180
Mis. Mixed	2760	2414
Total Mixed	26,934	28,407
MATERIALS		
Am Nitrate	4201	4660
Urea	153	206
Super	78	33
Triple	69	29
Mur. Potash	470	521
Sul. Potash	27	33
18-46- 0	297	208
Mis. Materials	97	109
Total Materials	5392	5799
Total Tonnes	32,326	34,206

NOVA SCOTIA

FERTILIZER SALES COMPARISON

YEARS ENDING JUNE 30/85 & 84

TONNES

GRADE	1985	1984
3-12-18T	32	--
4- 6-18T	--	31
4-12-18T	47	53
4-18-18T	94	105
5- 0-15T	38	40
5-12-18T	48	25
Mis. Tobacco	94	103
Total Tobacco	353	357
0-20-20	136	111
0-21-32	39	--
3-15- 6	115	160
5-10-30	691	714
5-10-45	50	86
5-20-20	485	445
6-12-12	3277	3754
8- 9-34	26	--
8-16- 8	60	61
8-24-15	25	--
10-10-10	1551	1679
10-20-10	27	--
10-20-20	310	248
10-20-29	--	73
10-28- 9	115	74
10-30-15	49	223
12-18-24	38	30
12-20-20	--	26
12-20-22	35	--
12-24-20	58	172
12-24-24	4571	4857
13- 9-35	--	32
14- 3-25	--	30
14-28-14	42	52
15- 0-30	44	34
15- 2-15	100	--
15- 5-15	326	345
14-15-15	333	479
15-19-19	45	--
15-20-15	134	115
15-30-15	212	150
15-40- 0	27	--
16-40- 5	25	--
17- 9-20	112	--
17-16-16	60	80
17-17-17	7551	7341
18- 6-18	2060	3203
19-19-19	350	268
20-0-20	--	34
20- 5- 5	124	95
20-10-10	180	58
20-10-15	--	205
22- 6-17	--	32
23- 0-30	--	38
24- 0-12	30	--

PRINCE EDWARD ISLAND

FERTILIZER SALES COMPARISON

YEAR ENDING JUNE 30/85 & 84

COMPARISON SUMMARY

	1985	1984	Difference	%Difference
TOTAL TONNES	60,354	58,417	1937	3.3%
Units N.	813,321	774,416	38,905	5.0%
Units P.	1,002,121	985,735	16,386	1.7%
Units K.	1,016,980	992,866	(24,114)	(2.4%)
Total Units	2,832,422	2,753,017	79,405	2.9%
Average Units/Tonne	46.9	47.1	(1.2)	(2.5%)
Bulk Tonnes	36,425	35,593	832	2.3%
% Bulk	60.4%	60.9%	(.5%)	(.8%)

As compiled by
Atlantic Fertilizer Institute
July 25/85

PRINCE EDWARD ISLAND

FERTILIZER SALES COMPARISON

YEAR ENDING JUNE 30/85 & 84

TONNES

GRADE	1985	1984
2-18-18T	47	30
3-12-12T	65	94
3-12-18T	121	140
3-18-12T	59	--
3-18-18T	237	188
3-18-24T	--	87
3-24-18T	36	12
4-12-12T	135	185
4-12-18T	329	308
4-14-14T	32	--
4-18-18T	279	232
5- 0- 8T	30	--
Mis. Tobacco	228	289
Total Tobacco	1598	1598
0-20-20	--	34
3-15- 6	94	87
4-12- 8	26	--
4-12-18	--	47
5-10-30	123	79
5-15-15	31	--
5-20-20	263	188
6-12-12	1302	1498
6-18-18	72	--
7-20-20	152	299
7-21-21	55	111
8-16- 8	--	16
8-16-16	69	70
8-16-20	86	78
8-18-18	--	72
8-24-12	65	--
8-24-16	655	537
9-18-20	26	--
9-18-24	--	28
9-27-18	340	362
10-5-10	--	128
10-10-10	563	612
10-10-14	--	28
10-10-20	--	12
10-10-30	54	137
10-15-15	100	208
10-20- 5	27	--
10-20-10	242	221
10-20-20	13,620	14,267
10-20-26	39	--
10-27-20	32	--
10-30-10	691	287
10-30-12	83	--
10-30-16	--	54
10-30-20	135	214
10-24-24	--	27
10-42- 5	--	27

PRINCE EDWARD ISLAND

FERTILIZER SALES COMPARISON CONT'D

TONNES

GRADE	1985	1984
11-25-19	32	--
11-28-19	193	--
12- 6-12	--	63
12-12-24	81	--
12-15-15	85	--
12-16-20	32	39
12-18- 6	32	--
12-18-12	167	225
12-18-18	2195	1410
12-18-24	218	136
12-20-20	66	42
12-20-24	82	170
12-22-22	275	--
12-24-10	32	--
12-24-12	258	248
12-24-18	--	58
12-24-20	--	136
12-24-22	56	75
12-24-24	3100	3058
12-28-20	--	91
13-17-17	141	--
13-17-20	215	40
13-20-16	112	--
13-20-20	3545	1520
13-20-25	--	32
14- 0-26	--	64
14- 0-30	--	159
14- 0-35	--	56
14-14-14	249	95
14-18-12	29	--
14-24-12	55	--
14-28-14	52	120
15- 5-15	875	782
15-10-15	33	54
15-10-25	274	327
15-15- 5	35	--
15-15-15	11801	12629
15-15-20	159	355
15-20-15	203	389
15-20-18	--	34
15-20-20	81	240
15-24-10	175	--
16- 8- 8	--	28
16- 8-16	39	--
16-16-16	200	--
16-16-17	897	--
16-24-10	60	--
17-10-10	--	47
17-10-17	--	60

PRINCE EDWARD ISLAND

FERTILIZER SALES COMPARISON CONT'D

TONNES

GRADE	1985	1984
17-16-16	72	--
17-16-17	--	1096
17-17-15	63	--
17-17-16	42	289
17-17-17	5178	5664
18- 6-18	89	67
20- 5- 5	30	--
20-10- 0	--	28
20-10-10	989	764
20-15-10	33	--
20-15-15	31	--
20-20- 0	36	29
20-20- 5	--	26
20-20-10	114	68
22-11-11	274	417
27-14- 0	61	--
Mis. Mixed	2530	2858
Total Mixed	56219	55420

MATERIALS

Am Nitrate	2788	1848
Urea	12	32
Sul. Amm.	10	--
Super	43	15
Mur. Potash	495	297
Sul. Potash	32	--
Sulpomag	108	83
18-46- 0	366	380
Mis. Materials	281	342
Total Materials	4135	2997
Total Tonnes	60,354	58,417

APPENDIX IV

Natural Lakes in New Brunswick Which Have Had Water Quality Chemically Altered By Addition Of Lime

Natural lakes which have had water quality chemically altered by addition of lime

Lake	Location	Pre-Liming Condition	Liming Data	Post Liming pH & Angling Quality
Pabineau 54 acres 13' max. depth	Gloucester Co., Bathurst Par. Nepisiguit Drainage	Date Surveyed: June 12, 1972 pH 4.7 @ surface 4.7 @ 13 feet Comments: No sport fish found. Oct. 1/74-pH 5.0 @ surface	Date: June, 1975 Type: Hydrated Quantity: 150 lbs/ acre-foot, 44,000 lbs. used Cost: $2420.00-lime pH 9.5 @ surface after liming	Aug., 1975, pH 8.5 Feb., 1976, pH 6.3 Mar. 25/76, pH 9.0 June 13/77, ph 8.2 Still supporting a good trout fishery, maintained by stocking due to lack of trout spawning and nursery areas
Knoll Spruce 28 acres 7' max. depth	Northumberland Co. North Esk Parish Nepisiguit Drainage	Date Surveyed: 1974 pH 6.5 Comments: No sport fish found. Only small spring tributaries present.	Date: Sept. 16/75 Type: Hydrated Quantity: 50 lbs/ acre-foot Cost: $966.00	Feb. 1976, pH 6.0, O_2:1.0 ppm Present Status: some fish over winter, but usually not two winters consecutively. Late winter water quality problem-low dissolved oxygen. Good trout growth.
North Branch 120 acres 4' max. depth	Gloucester Co. Allardville Par. Tabusintac Drainage	Date Surveyed: 1975 pH 5.5 @ surface 5.5 @ 4' depth 1974 lab sample: pH 3.1 on 8-8-1974 Comments: No surface tributaries or outlet	Date: Sept. 17/75 Type: Hydrated Quantity: 100 lbs/ acre-foot Cost: $4,118.76	March 1976, pH 6.5, O_2: 8.0 ppm Excellent angling and trout growth up to 2 lbs. - maintained by stocking. Some net poaching suspected.

Natural lakes which have had water quality chemically altered by addition of lime

Lake	Location	Pre-Liming Condition	Liming Data	Post Liming pH & Angling Quality
Goose 34 acres 6.5' max. depth	Gloucester Co., New Bandon Parish	Date Surveyed: August 26, 1975 pH 6.0 @ surface Comments: No fish found	Date: March 25/82 Type: (a) calcitic (agricultural) (b) hydrated Quantity: 1760 lbs(a) 250 lbs(b) 2010 lbs. Cost: $135.00 - spread by hand on ice @ 17 lbs. per acre-foot rate - Total: 15 man hours (5 persons)	Feb., 1976, pH 5.5, O_2: 4.0 ppm Mar., 1976, pH 6.0, O_2: 4.0 ppm Feb., 1977, pH 6.5, O_2: 2.0 ppm Mar., 1977, ph 7.0, O_2: 8.0 ppm Access poor - no follow-up done No fish stocked since liming, late winter. Water quality (O_2 depletion) problem prevents trout surviving winter. Searching for a low-cost reliable method to remedy late winter oxygen depletion problem.
Depres 40 acres 7' max. depth x depth: 5' 200 acre-foot	Northumberland - Kent Co., line bisects lake, mostly in Kent Co., Huskisson Parish Miramichi Drainage	Date Surveyed: August 8, 1975 pH 5.3 surface 5.3 @ 7' depth No inlets, one outlet present Comments: No fish found. pH 4.2 April 3, 1974. Previous trout stockings did not survive.	Date: April 3, 1984 Type: Calcitic Limestone Agricultural (dust) Quantity: 13,750 kg (30,250 lbs) 150 lbs/acre-foot Cost: $505.00 lime 72 man-hours (36 to spread lime), 3 snowmobiles, 2 sleds, 1 hopper to spread lime	April 3, 1984 pH 7.4 (after liming) Oct. 31, 1984 pH 6.5(trout stocked) Jan. 15, 1985 pH 6.3 Feb. 19, 1985 pH 6.1 Mar. 14, 1985 pH 5.9 Mar. 27, 1985 pH 6.1 April 30, 1985 pH 6.5 Winter fishing good, trout have grown 2" on average since being stocked October 31, 1984

Natural lakes which have had water quality chemically altered by addition of lime

Lake	Location	Pre-Liming Condition	Liming Data	Post Liming pH & Angling Quality
Estey 15 acres 26' max. depth	Northumberland Co. North Esk Parish Miramichi Drainage	Date Surveyed: August 14, 1975 pH 5.7 @ surface 5.7 @ 26' depth No inlets, outlet dry at time of survey	Date: April 6&7/76 Type: Hydrated Quantity: 13,800 kg (30,912 lbs) Cost: $1,000 lime 800 (108 man hrs.) $1,800 total	May 31, 1976 pH 8.5 July 12, 1976 pH 7.8 July 23, 1976 pH 7.6 Sept. 3, 1976 pH 7.9 Oct. 29, 1976 pH 7.5 June 13, 1977 pH 7.4 @ surface pH 7.1 @ 24' depth July 26, 1978 pH 7.6 @ surface pH 6.7 @ 24' depth May, 1984 pH 6.2 @ surface

PROVINCE OF NEW BRUNSWICK

NATURAL LAKES WHICH HAVE HAD WATER QUALITY CHEMICALLY ALTERED BY ADDITION OF LIME

LAKE	LOCATION	PRE-LIMING CONDITION	LIMING DATE	POST LIMING pH AND ANGLING CONDITION
Fish Lake 6 acres 17' Max. Depth	Douglas Parish York Co. Saint John River Drainage	.Date Surveyed August 2, 1984 .pH 6.4-surface 6.0-10 feet .March 7, 1985 pH-5.99 surface .May 2, 1985 10:00 A.M. pH-6.50 .Brook trout and eels only fish species	.May 2, 1985 .Type: Calcitic Dust .Quantity: 3 metric tonnes .Cost: $132.00 Manpower: 56 man-hours including preparation, application and clean-up	.May 2, 1985 12:00 P.M. pH-8.56 -500 brook trout to be stocked in June 1985 -D.N.R. considering improvement project on the outlet to enhance trout spawning .May 28, 1985 12:00 P.M. pH-7.03

APPENDIX V

Information Provided by the Atlantic Provinces Transportation Commission on Limestone, Lime, Cement and Aggregate Transportation Rates

Atlantic Provinces Transportation Commission

P.O. Box 577
Moncton
New Brunswick
E1C 8L9

Tel. (506) 857-2820
Telex 014-2842

October 11, 1985

File 371

Mr. Dallas W. Davis, P. Eng.
407 Dufferin Street
Fredericton, N. B.
E3B 3A8

Dear Mr. Davis:

With reference to your recent request for freight rate information on lime, cement and aggregates, we have enclosed the following:

Appendix 1: - photocopy of mileage rates on lime, limestone, etc., for Brookville Manufacturing via Lenron Ltd.;
- photocopy of mileage rates on aglime for Havelock Lime Works via A & M Transport;
- photocopy of specific point to point rates on aglime, limestone, etc., for Havelock Lime Works via A & M Transport;
- photocopy of specific point to point rates on calcined lime and hydrated lime for Havelock Processing via A & M Transport; and,
- photocopy of rail carload rates on lime from Havelock to various destinations.

Appendix 2: - photocopy of specific point to point rates on crushed rock for Havelock Lime Works via A & M Transport;
- photocopy of New Brunswick government gravel haulage scale;
- photocopy of Nova Scotia government gravel haulage scale; and,
- photocopies of various point to point rail carload rates on sand and gravel.

Appendix 3: - photocopy of mileage rates on cement within New Brunswick and Nova Scotia via Cement Cartage Co.; and,
- photocopies of rail carload rates on cement from Quebec points to New Brunswick and Nova Scotia points, within Quebec and within the Atlantic Provinces.

Appendix 4: - photocopy of rates to U.S.A. points for Havelock Processing via A & M Transport; and,
- photocopy of rail carload rates on lime from Joliette, Que., to points in Maine (if paid in Canadian funds, these rates are subject to a currency exchange surcharge which is currently 22%).

. . . /2

Mr. Dallas W. Davis

October 11, 1985

Regarding your request for water rates to the U.S.A. east coast, we have updated some earlier work and arrived at the following estimates:

$7.50/tonne - trucking from Havelock to Saint John
$9.18/tonne - water rate from Saint John to Boston

The above water rate includes the cost of the vessel, bunker, diesel, port costs at Saint John and Boston and demurrage. The rate does not include the cost of stevedoring or loading and unloading. The above estimate is for moving 25,000 tonnes of bulk cement at one time, however, we believe that 25,000 tonnes is not a realistic figure for the plant at Havelock because it would deplete their stock for supplying other customers.

Enclosed is our invoice for $150.00 to cover our costs for this project. If you have any questions, please let us know.

Yours very truly,

D. V. Ronalds

Dale V. Ronalds
Traffic Analyst

DVR/smw

Enclosures

APPENDIX V (1)

A & M TRANSPORT LTD. - TARRIF "B" - EFFECTIVE APRIL 1, 1985

Subsidiary only

Trucking Rates for Havelock Lime Works Ltd. - Aglime

KM Hauled	Column A	Column B
0 - 40	3.07 per tonne	2.76 per tonne
41 - 50	3.13 per tonne	2.82 per tonne
51 - 60	3.52 per tonne	3.17 per tonne
61 - 70	3.82 per tonne	3.44 per tonne
71 - 80	4.69 per tonne	4.22 per tonne
81 - 90	5.33 per tonne	4.80 per tonne
91 - 100	6.09 per tonne	5.48 per tonne
101 - 110	6.63 per tonne	5.97 per tonne
111 - 120	7.27 per tonne	6.54 per tonne
121 - 130	8.02 per tonne	7.22 per tonne
131 - 140	8.66 per tonne	7.79 per tonne
141 - 150	9.18 per tonne	8.27 per tonne
151 - 160	9.83 per tonne	8.85 per tonne
161 - 170	10.47 per tonne	9.42 per tonne
171 - 180	11.11 per tonne	10.00 per tonne
181 - 190	11.70 per tonne	10.53 per tonne
191 - 200	12.29 per tonne	11.06 per tonne
201 - 210	12.99 per tonne	11.69 per tonne
211 - 220	13.69 per tonne	12.32 per tonne
221 - 230	14.39 per tonne	12.95 per tonne
231 - 240	15.10 per tonne	13.59 per tonne
241 - 250	15.69 per tonne	14.12 per tonne
251 - 260	16.28 per tonne	14.65 per tonne
261 - 270	16.87 per tonne	15.18 per tonne
271 - 280	17.46 per tonne	15.71 per tonne
281 - 290	18.27 per tonne	16.44 per tonne
291 - 300	18.93 per tonne	17.04 per tonne
301 - 310	19.49 per tonne	17.54 per tonne
311 - 320	20.04 per tonne	18.04 per tonne
321 - 330	20.60 per tonne	18.54 per tonne
331 - 340	21.16 per tonne	19.04 per tonne
341 - 350	21.82 per tonne	19.64 per tonne
351 - 360	22.38 per tonne	20.14 per tonne
361 - 370	23.15 per tonne	20.84 per tonne
371 - 380	23.93 per tonne	21.54 per tonne

A & M Transport Ltd.

Page 2

	Column A	Column B
381 - 390	24.49 per tonne	22.04 per tonne
391 - 400	25.16 per tonne	22.64 per tonne
401 - 410	25.71 per tonne	23.14 per tonne
411 - 420	26.27 per tonne	23.64 per tonne
421 - 430	26.82 per tonne	24.14 per tonne
431 - 440	27.38 per tonne	24.64 per tonne
441 - 450	28.04 per tonne	25.24 per tonne

NOTE -Column "A" Rates reflect the gross rates required for each movement, except for bagged products in which case please add $2.22 to the Column A rate.

-Column "B" Rates provide for a reduction of 10% for commodities eligible for Special Selective Assistance, except for bagged products in which case please add $2.00 to the Column B rate.

TARRIF "A" A & M TRANSPORT LIMITED

SEP 19 1985
NEW BRUNSWICK
MOTOR CARRIER BOARD

Trucking Rates for Havelock Lime Works Ltd. Effective October 1, 1985

AGLIME, FERTILIZER, FILLER, STA-STRONG, SHELL-MIX
CALCIUM GRANULES, LIME DUST, AND LIMESTONE.

	Col. A	Col. B
Alma, N.B.	11.56 per tonne	10.40 per tonne.
Bathurst, N.B.	18.00 per tonne	16.20 per tonne.
Bridgewater, N.S.	31.11 per tonne	28.00 per tonne.
Campobello Island, N.B.	31.67 per tonne	28.50 per tonne.
Chatham, N.B.	13.11 per tonne	11.80 per tonne.
Clair, N.B.	29.56 per tonne	26.60 per tonne.
Edmundston, N.B.	28.89 per tonne	26.00 per tonne.
Dartmouth, N.S.	24.44 per tonne	22.00 per tonne.
Drummond, N.B.	25.11 per tonne	22.60 per tonne.
Fredericton, N.B.	12.78 per tonne	11.50 per tonne.
Florenceville, N.B.	20.44 per tonne	18.40 per tonne.
Halifax, N.S.	24.44 per tonne	22.00 per tonne.
Hampton, N.B.	11.11 per tonne	10.00 per tonne.
Hartland, N.B.	19.56 per tonne	17.60 per tonne.
Grand Falls, N.B.	24.22 per tonne	21.80 per tonne.
Kentville, N.S.	744.44 per trip	670.00 per trip.
Little Bras D'or, N.S.	39.00 per tonne	35.10 per tonne.
Moncton, N.B.	10.00 per tonne	9.00 per tonne.
Newcastle, N.B.	13.00 per tonne	11.70 per tonne.
New Minas, N.S.	28.33 per tonne	25.50 per tonne.
Oromocto, N.B.	11.67 per tonne	10.50 per tonne.
Perth-Andover, N.B.	23.33 per tonne	21.00 per tonne.
Petit Rocher, N.B.	19.11 per tonne	17.20 per tonne.
Point Sapin, N.B.	14.67 per tonne	13.20 per tonne.
Port Williams, N.B.	744.44 per trip	670.00 per trip.
Quispamsis, N.B.	12.00 per tonne	10.80 per tonne.
Sackville, N.B.	10.00 per tonne	9.00 per tonne.
Saint John, N.B.	12.56 per tonne	11.30 per tonne.
Shediac, N.B.	10.27 per tonne	9.25 per tonne.
Summerside, P.E.I.	14.44 per tonne	13.00 per tonne.
Sydney, N.S.	39.33 per tonne	35.40 per tonne.
Sydney Mines, N.S.	39.33 per tonne	35.40 per tonne.

Trucking Rates for Havelock Processing Ltd.

Calcined Lime	Col. A.	Col. B.
Abercrombie, N.S.	24.11 per ton	21.70 per ton.
Atholville, N.B.	22.00 per ton	19.80 per ton.
Bathurst, N.B.	19.89 per ton	17.90 per ton.
Edmundston, N.B.	23.22 per ton	20.90 per ton.
Moncton, N.B.	12.00 per ton	10.80 per ton.
Nackawic, N.B.	18.11 per ton	16.30 per ton.
Newcastle, N.B.	17.78 per ton	16.00 per ton.
New Richmond, Que.	27.56 per ton	24.80 per ton.
Mount Pleasant, N.B.	20.89 per ton	18.80 per ton.
St. George, N.B.	19.00 per ton	17.10 per ton.
Saint John, N.B.	12.89 per ton	11.60 per ton.
Saint John's, Nfld.	119.67 per ton	107.70 per ton.
Hydrated Lime		
Bridgewater, N.S.	31.56 per ton	28.40 per ton.
Bridgewater, N.S.	855.56 per trip	770.00 per trip.
Brunswick Mines, N.B.	20.37 per ton	18.30 per ton.
Belledune, N.B.	27.33 per ton	24.60 per ton.
Cape Pele', N.B.	16.67 per ton	15.00 per ton.
Cape Pele', N.B.	333.33 per trip	300.00 per trip.
Caribou Mines, N.B.	30.56 per ton	28.30 per ton.
Caribou Mines, N.B.	677.78 per trip	610.00 per trip.
Chatham, N.B.	17.11 per ton	15.40 per ton.
Chester Mines, N.B.	30.89 per ton	27.80 per ton.
Fredericton, N.B.	22.67 per ton	20.40 per ton.
Gayton, N.B.	14.44 per ton	13.40 per ton.
Gayton, N.B.	311.11 per trip	280.00 per ton.
Halifax, N.S.	28.22 per ton	25.40 per ton.
Heath Steele Mines, N.B.	22.89 per ton	20.60 per ton.
Jolicure, N.B.	17.78 per ton	16.00 per ton.
Jolicure, N.B.	366.67 per trip	330.00 per ton.
Lingan, N.S.	40.89 per ton	36.80 per ton.
Moncton, N.B.	12.33 per ton	11.10 per ton.
Moncton, N.B.	288.89 per trip	260.00 per trip.
Morrison Cove, N.B.	17.11 per ton	15.40 per ton.
Murdochville, Que.	43.89 per ton	39.50 per ton.
Saint John's, Nfld.	119.67 per ton	107.70 per ton.

NOTE Column "A" rates reflect gross rates required for each movement.
Column "B" rates provide for a reduction of 10% for commodities eligible for Special Selective Assistance.

SUPPLEMENT 84 TO TARIFF CFAE 4415-A

SECTION 2

COMMODITIES AND APPLICATION

Item 31850-D Cont'd from previous page

INSULATING MATERIALS *(Cont'd)*

(E31)(B1)*RATES IN CENTS PER 100 LBS*

FROM STATION	SPLC	TO STATION	SPLC	30M	40M	ROUTE	
NS Debert	011204	NF Stephenville	008867	636	601	N10	GN
NS Debert	011204	NF Stephenville Crsg	008874	636	601	N10	GP
NS Truro	012230	NF St John's	008102	857	824	NP10	GQ

EFFECTIVE JUL 1, 1985

TARIFF	ITEM	REF MK	STCC	COM CODE	ITEM
CFAE 4415-A	32000-D	(S79)	14 919 50	57D	32000-D

INSULATING MATERIALS, NAMELY,
VERMICULITE.

(E31)(MFRA)*RATES IN CENTS PER 100 LBS*

FROM STATION	SPLC	TO STATION	SPLC	MIN. WGT.	RATES	ROUTE	
NB Moncton	015200	PQ Quebec	033000	20M	444	N10	GB
NB Moncton	015200	PQ Ste Foy	033018	20M	444	N10	GD

EFFECTIVE JUL 1, 1985

TARIFF	ITEM	REF MK	STCC	COM CODE	ITEM
CFAE 4415-A	32150-H	(S79)		26F	32150-H

LIME, COMMON, HYDRATED, QUICK OR SLAKED.
IN BULK.

(E31)(B1)*RATES IN CENTS PER 100 LBS, EXCEPT AS NOTED*

FROM STATION	SPLC	TO STATION	SPLC	MIN. WGT.	RATES	ROUTE	
NB Havelock	016921	NB Bathurst	018545	(ME120)	(CHC) 175	N10	GB
NB Havelock	016921	NB Bathurst	018545	(ME140)	(CHC) 152	N10	GD
NB Havelock	016921	NB Brunswick Mine	018543	(ME120)	(PCH)(NT) 2029	N10	GE
NB Havelock	016921	NB Heath Steele	018070	(ME120)	(PCH)(NT) 2029	N10	GG
NB Havelock	016921	NB Newcastle	018104	(ME140)	(CHC) 85	N10	GJ
NB Havelock	016921	NF Long Harbour	008307	80M	363	N10	GK
NB Havelock	016921	NF Whitbourne	008228	80M	518	N10	GL
NB Havelock	016921	NF Whitbourne	008228	90M	514	N10	GN
NB Havelock	016921	PQ New Richmond	020102	140M	(CHC) 166	N10	GP

EFFECTIVE JUL 1, 1985

TARIFF	ITEM	REF MK	STCC	COM CODE	ITEM
CFA 4415-A	32250-E	(S79)	42 112 25	56	32250-E

PALLETS, EMPTY, RETURNED.
NOT SUBJECT TO CFAE TARIFF 1004.

(E31)(MFRA)*RATES IN CENTS PER 100 LBS*

FROM STATION	SPLC	TO STATION	SPLC	MIN. WGT.	RATES	ROUTE	
PE Charlottetown	014600	PQ Montreal	030000	24M	220	N10	GB
PE Summerside	014730	PQ Montreal	030000	24M	220	N10	GD

FOR EXPLANATION OF OTHER REFERENCE MARKS, SEE CONCLUDING PAGES OF TARIFF, AS AMENDED.

APPENDIX V (2)

TARRIF "C"

A & M TRANSPORT LTD. EFFECTIVE OCTOBER 1, 1985

TRUCKING FOR HAVELOCK LIME WORKS LTD.

CRUSHED ROCK

Amherst, N.S.	11.00 per tonne.
Bathurst, N.B.	17.20 per tonne.
Belledune, N.B.	19.00 per tonne.
Chatham, N.B.	11.80 per tonne.
Dartmouth, N.B.	22.00 per tonne.
Halifax, N.S.	22.00 per tonne.
Minto, N.B.	9.60 per tonne.
Nackawic, N.B.	13.80 per tonne.
Newcastle, N.B.	11.00 per tonne.
New Richmond, Quebec	22.80 per tonne.
Oromocto, N.B.	9.60 per tonne.
Sackville, N.B.	9.40 per tonne.
Saint John, N.B.	9.80 per tonne.
Sussex, N.B.	3.40 per tonne.
Sydney, N.S.	35.40 per tonne.
Springhill, N.S.	11.60 per tonne.

Rates Accepted For Filing
SEP 19 1985
NEW BRUNSWICK
MOTOR CARRIER BOARD

JUN 17 1985
NEW BRUNSWICK

HAULAGE RATES (METRIC)
EFFECTIVE APRIL 1, 1985

Borrow, Backfill over Rock Cuts, Backfill Around Structures, Filter Material, Gravel Subbase, Rock Subbase, Sandstone Subbase, Random Rip Rap, Topsoil, Free-Draining Backfill, Shouldering Material

km 0- 1	0.65	km 25-26	3.67	km 50-51	5.94
km 1- 2	0.80	km 26-27	3.79	km 51-52	6.01
km 2- 3	0.92	km 27-28	3.90	km 52-53	6.08
km 3- 4	1.04	km 28-29	4.01	km 53-54	6.15
km 4- 5	1.16	km 29-30	4.12	km 54-55	6.22
km 5- 6	1.27	km 30-31	4.23	km 55-56	6.29
km 6- 7	1.39	km 31-32	4.33	km 56-57	6.36
km 7- 8	1.51	km 32-33	4.43	km 57-58	6.43
km 8- 9	1.62	km 33-34	4.53	km 58-59	6.50
km 9-10	1.74	km 34-35	4.63	km 59-60	6.57
km 10-11	1.85	km 35-36	4.72	km 60-61	6.64
km 11-12	1.97	km 36-37	4.81	km 61-62	6.71
km 12-13	2.10	km 37-38	4.90	km 62-63	6.78
km 13-14	2.21	km 38-39	4.99	km 63-64	6.85
km 14-15	2.33	km 39-40	5.08	km 64-65	6.92
km 15-16	2.44	km 40-41	5.16	km 65-66	6.99
km 16-17	2.56	km 41-42	5.24	km 66-67	7.06
km 17-18	2.67	km 42-43	5.32	km 67-68	7.13
km 18-19	2.78	km 43-44	5.40	km 68-69	7.19
km 19-20	2.91	km 44-45	5.48	km 69-70	7.25
km 20-21	3.04	km 45-46	5.56	km 70-71	7.31
km 21-22	3.17	km 46-47	5.64	km 71-72	7.37
km 22-23	3.30	km 47-48	5.72	km 72-73	7.43
km 23-24	3.43	km 48-49	5.80	km 73-74	7.49
km 24-25	3.55	km 49-50	5.87	km 74-75	7.55

Each succeeding km $0.06/t
For hot mix asphaltic concrete add $0.12/t to the above rates

JUN 13 1985
Nova Scotia

DEPARTMENT OF TRANSPORTATION
TRUCK RATES

For Trucks Operating with Full Loads
Effective July 1, 1984

For trucks operating with full loads. These rates to be increased by 10% for specific rock hauling operations involving quarried rock or uncrushed field stone larger than 0.03 cubic metre.

1.1

TONNE KILOMETRE RATES
(For trucks hauling asphalt add 13¢/Tonne)

km	$/Tonne
1	0.70
2	0.83
3	0.96
4	1.08
5	1.22
6	1.34
7	1.47
8	1.60
9	1.73
10	1.86
11	1.99
12	2.11
13	2.25
14	2.37
15	2.51
16	2.63
17	2.76
18	2.89
19	3.02
20	3.15
21	3.28
22	3.40
23	3.54
24	3.66
25	3.79
26	3.92
27	4.05

km	$/Tonne
28	4.18
29	4.31
30	4.43
31	4.57
32	4.69
33	4.78
34	4.88
35	4.97
36	5.05
37	5.15
38	5.24
39	5.34
40	5.43
41	5.44
42	5.45
43	5.46
44	5.47
45	5.48
46	5.49
47	5.50
48	5.51
49	5.52
50	5.53
51	5.54
52	5.55
53	5.60
54	5.65

km	$/Tonne
55	5.70
56	5.76
57	5.81
58	5.86
59	5.91
60	5.97
61	6.02
62	6.07
63	6.12
64	6.17
65	6.23
66	6.28
67	6.33
68	6.38
69	6.44
70	6.49
71	6.54
72	6.59
73	6.64
74	6.70
75	6.75
76	6.80
77	6.85
78	6.91
79	6.96
80	7.01
81	7.06

km	$/Tonne
82	7.11
83	7.17
84	7.22
85	7.27
86	7.32
87	7.38
88	7.43
89	7.48
90	7.53
91	7.58
92	7.64
93	7.69
94	7.74
95	7.79
96	7.85
97	7.90
98	7.95
99	8.00
100	8.05

+5.22¢

Per Tonne

Over 100 km

1.4 TRUCK RATES - SERVICE TRUCK (INCLUDES DRIVER):
To be used when other rates do not apply, e.g. partial loads, intermittent use.
Truck one (1) tonne & under — $9.48 per hour.
Trucks over one (1) tonne — Min. hourly rate (3 cu. metre - $15.91)

1.5 TRUCK RATES - SERVICE TRUCK (WITHOUT DRIVER):
Truck one (1) tonne & under — $3.88 per hour.

SUPPLEMENT 84 TO TARIFF CFAE 4415-A

SECTION 2

COMMODITIES AND APPLICATION

EFFECTIVE JUL 1, 1985

TARIFF	ITEM	REF MK	STCC	COM CODE	ITEM
CFAE 4415-A	33050-D	(S79)		26B	33050-D

SHALE, GROUND, BURNT.
IN BULK, IN OPEN TOP CARS.

(E31)(MFRA)*RATES IN CENTS PER TON OF 2,000 LBS*

FROM STATION	SPLC	TO STATION	SPLC	(MC145)	(MC145)	(MC155)	ROUTE	
NB Minto	016863	ON Acton	044804	4074	....	....	P940N	GC
NB Minto	016863	ON Toronto	043230	3920	(2) 3481	(2) 3406	P10	GF
NB Minto	016863	PQ Montreal	030000	2384	(2) 2119	(2) 2073	P10	GJ
NB Minto	016863	PQ Sherbrooke	024000	1798	(2) 1582	(2) 1537	P10	GN

(2) APPLICABLE ONLY ON CARS MOVING IN LOTS OF NOT LESS THAN 5 CARS IN ONE SHIPMENT AND ONLY WHEN SHIPPED IN THE QUANTITY SPECIFIED TO ONE CONSIGNEE AT ONE DESTINATION IN ONE DAY ON ONE BILL OF LADING.

EFFECTIVE JUL 1, 1985

TARIFF	ITEM	REF MK	STCC	COM CODE	ITEM
CFAE 4415-A	33200-C	(S69)		20	33200-C

SLAG, BOILER.

(E31)(MFRA)*RATES IN CENTS PER TON OF 2,000 LBS*

FROM STATION	SPLC	TO STATION	SPLC	MIN. WGT.	RATES	ROUTE	
NS Sydney	010002	PQ Contrecoeur	026636	140M	2952	N10	GF

EFFECTIVE JUL 1, 1985

TARIFF	ITEM	REF MK	STCC	COM CODE	ITEM
CFAE 4415-A	33350-D	(S79)		20	33350-D

STONE, GRAVEL OR **SAND,** NAMELY,
BALLAST.
IN COVERED HOPPER CARS.

(E31)(M1008)*RATES IN CENTS PER TON OF 2,000 LBS*

FROM STATION	SPLC	TO STATION	SPLC	MIN. WGT.	RATES	ROUTE	
NS Folly Lake	011218	NS Trenton	011560	160M	852	N10	GB

EFFECTIVE JUL 1, 1985

TARIFF	ITEM	REF MK	STCC	COM CODE	ITEM
CFAE 4415-A	33500-D	(S79)		20	33500-D

STONE, GRAVEL OR **SAND,** NAMELY,
GRAVEL.
SAND.
STONE, CRUSHED.
IN OPEN TOP CARS.

(E31)*RATES IN CENTS PER 100 LBS, EXCEPT AS NOTED*

FROM STATION	SPLC	TO STATION	SPLC	MIN. WGT.	RATES	ROUTE	
NS Folly Lake	011218	NB Chatham	015330	140M	(M1008)(NT) 1305	N10	GF
NS Hebron	013233	ON Lakefield (4)	042522	120M	(BLK)(MFRA) 316	D865N	GH
NS Yarmouth	013612	ON Lakefield (4)	042522	120M	(BLK) (MFRA)(2) 316	N10	GJ
NS Yarmouth	013612	ON Lakefield (4)	042522	120M	(BLK) (MFRA)(3) 316	D865N	GL

(2) APPLICABLE WHEN RAIL CARS ARE SUPPLIED BY THE CNRE.
(3) APPLICABLE WHEN RAIL CARS ARE SUPPLIED BY THE DA.
(4) ALSO IN NYLON BAGS, IN OPEN TOP EQUIPMENT.

EFFECTIVE JUL 1, 1985

TARIFF	ITEM	REF MK	STCC	COM CODE	ITEM
CFAE 4415-A	33650-F	(S79)		26B	33650-F

STONE, GRAVEL OR **SAND,** NAMELY,
LIMESTONE.

(E31)(M1008)*RATES IN CENTS PER 100 LBS, EXCEPT AS NOTED*

FROM STATION	SPLC	TO STATION	SPLC	MIN. WGT.	RATES	ROUTE	
NB Havelock	016921	NB Belledune	018559	140M	90	N10	GB
NB Havelock	016921	NB Newcastle	018104	140M	(NT)(2) 1066	N10	GD

(2) IN STANDARD TRIPLE HOPPER CARS.

FOR EXPLANATION OF OTHER REFERENCE MARKS, SEE CONCLUDING PAGES OF TARIFF, AS AMENDED.

SUPPLEMENT 84 TO TARIFF CFAE 4415-A

SECTION 4

COMMODITIES AND APPLICATION

EFFECTIVE JUL 1, 1985

TARIFF	ITEM	REF MK	STCC	COM CODE	ITEM
CFAE 4415-A	63050-D	(S79)		26B	63050-D

SHALE, GROUND, BURNT.
IN BULK, IN OPEN TOP CARS.

(E31)(M1008)*RATES IN CENTS PER TON OF 2,000 LBS*

FROM STATION	SPLC	TO STATION	SPLC	MIN. WGT.	RATES	ROUTE	
NB Minto	016863	NB Fredericton	016600	(2)100M	1017	P10	GB
NB Minto	016863	NB Saint John	016000	(2)100M	1847	P10	GD

(2) EXCEPT WHEN CARS ARE LOADED TO FULL VISIBLE CAPACITY AND WILL NOT CONTAIN THE ABOVE MINIMA, ACTUAL WEIGHT WILL APPLY, BUT NOT LESS THAN 90M.

EFFECTIVE JUL 1, 1985

TARIFF	ITEM	REF MK	STCC	COM CODE	ITEM
CFAE 4415-A	63200-D	(S79)		20	63200-D

STONE, GRAVEL OR **SAND**, NAMELY,
GRAVEL.
SAND.
STONE, CRUSHED.
IN BULK, IN OPEN TOP CARS, EXCEPT AS NOTED.

(E31)(M1008)*RATES IN CENTS PER 100 LBS, EXCEPT AS NOTED*

FROM STATION	SPLC	TO STATION	SPLC	MIN. WGT.	RATES	ROUTE	
NS Bedford	012460	NS Aldershot	012670	90M	65	D10	GB
NS Bedford	012460	NS Annapolis Royal	013143	90M	109	D10	GD
NS Bedford	012460	NS Grand Pre	012638	90M	63	D10	GF
NS Bedford	012460	NS Kennetcook	012345	90M	74	D10	GH
NS Bedford	012460	NS Lawrencetown Anna	013117	90M	74	D10	GJ
NS Bedford	012460	NS Meteghan Station	013214	90M	120	D10	GL
NS Bedford	012460	NS South Maitland	012318	90M	83	D10	GN
NS Bedford	012460	NS Truro	012230	90M	(1) 70	D10	GP
NS Bedford	012460	NS Yarmouth	013612	90M	125	D10	GR
NS Folly Lake	011218	NS Port Hawkesbury	010260	160M	(CHC)(NT) 699	N10	GS
NS Folly Lake	011218	PE Linkletter	014713	160M	(CHC)(NT) 937	N10	GT

Lenron Ltd.
716 WOODSTOCK ROAD - FREDERICTON, N.B. E3B 5N7 - (506) 454-2463

Rates for
BROOKVILLE MANUFACTURING
To All NEW BRUNSWICK, N.S.and P.E.I. Points
EFFECTIVE FEB.1/85

HAUL FROM	KM.TO	HAUL COST per/TONNE REDUCED RATE	HAUL COST per/TONNE NORMAL RATE
0	40	4.03	4.84
41	50	5.03	5.59
51	60	5.63	6.26
61	70	6.23	6.92
71	80	6.84	7.60
81	90	7.45	8.28
91	100	8.06	8.96
101	110	8.33	9.25
111	120	8.55	9.50
121	130	8.78	9.75
131	140	9.00	10.00
141	150	9.23	10.25
151	160	9.60	10.67
161	170	10.16	11.29
171	180	10.72	11.91
181	190	11.29	12.54
191	200	11.85	13.17
201	210	12.35	13.72
211	220	12.98	14.42
221	230	13.55	15.06
231	240	14.11	15.68
241	250	14.68	16.31
251	260	15.25	16.94
261	270	15.80	17.56
271	280	16.37	18.19
281	290	17.19	19.10
291	300	17.50	19.44
301	310	18.06	20.07
311	320	18.63	20.70
321	330	19.19	21.32
331	340	19.76	21.96
341	350	20.32	22.58
351	360	20.88	23.20
361	370	21.45	23.83
371	380	22.02	24.47
381	390	22.58	25.09
391	400	23.14	25.71
401	410	23.71	26.34
411	420	24.28	26.98
421	430	24.83	27.59
431	440	25.37	28.19

FEB 18 1985

Each additional 10 km.add.60¢ /Tonne with subsidy.Add .66¢ without subsidy.All flat bed loads-$1.70 per loaded Km.with subsidy.Add $1.89 without subsidy. $40.00 /hr.waiting time after 2 hours.
Minimum load 23 Tonnes over 100 Km.

APPENDIX V (3)

Appendix 3

SUPPLEMENT 87 TO TARIFF CFAE 4415-A

SECTION 1

COMMODITIES AND APPLICATION

EFFECTIVE OCT 7, 1985

TARIFF	ITEM	REF MK	STCC	COM CODE	ITEM
CFAE4415-A	14950-H			S 22	14950-H

CEMENT, IN BULK, IN PRESSURE UNLOADING COVERED HOPPER CARS, EXCEPT AS NOTED.

RATES APPLY ONLY ON TRAFFIC SHIPPED BY CIMENT ST. LAURENT INC. FOR A VOLUME OF NOT LESS THAN 40,000 TONS DURING THE PERIOD COMMENCING JANUARY 1, 1985 AND TERMINATING DECEMBER 31, 1985.

IN THE EVENT OF WAR, FIRE, FLOOD, STRIKE, LOCKOUT, WORK STOPPAGE OR SLOWDOWN, ACCIDENT, RIOT, ACT OF GOD OR THE QUEEN'S ENEMIES, THE SHIPPER AND CARRIER SHALL BE ABSOLVED FROM LIABILITY AND THE QUANTITIES SO AFFECTED SHALL BE ELIMINATED FROM THE AGREEMENT WITHOUT LIABILITY, BUT THE AGREEMENT SHALL OTHERWISE REMAIN UNAFFECTED, THIS CLAUSE SHALL ALSO BE INTERPRETED TO INCLUDE OPERATONAL BREAKDOWN BEYOND THE REASONABLE CONTROL OF THE SHIPPER OR CARRIER.

IT IS AN EXPLICIT CONDITION OF THIS AGREEMENT THAT THE RATE(S) PRESCRIBED FOR THE MOVEMENT MAY BE SUBJECT, FROM TIME TO TIME, ON NOT LESS THAN 30 DAYS WRITTEN NOTICE, TO FUEL SURCHARGES, SUCH INCREASED RATE(S) TO BE SET FORTH IN A SUPPLEMENT OR SUPPLEMENTS TO BE FILED WITH THE CANADIAN TRANSPORT COMMISSION AND MADE EFFECTIVE ON THE DAY OR DAYS SPECIFIED IN SAID WRITTEN NOTICE; ALL OTHER TERMS AND CONDITIONS OF THIS AGREEMENT TO REMAIN IN FULL FORCE AND EFFECT.

(E31)RATES IN CENTS PER TON OF 2,000 LBS

FROM STATION	SPLC	TO STATION		SPLC	MIN. WGT.	RATES	ROUTE	
PQ VILLENEUVE	033095	NB MONCTON		015200	140M	(2) 2843	N10	GB
PQ VILLENEUVE	033095	NS ANTIGONISH		010596	190M	3042	N10	GD
PQ VILLENEUVE	033095	NS AULD COVE		010803	190M	3042	N10	GE
PQ VILLENEUVE	033095	NS BEDFORD	(T)	012460	190M	3000	N10	GF
PQ VILLENEUVE	033095	NS DARTMOUTH		012190	190M	3000	N10	GG
PQ VILLENEUVE	033095	NS NEW GLASGOW		011558	190M	3042	N10	GH
PQ VILLENEUVE	033095	NS SYDNEY		010002	190M	3136	N10	GK

(T) TRANSFERRED OCT 7, 1985 FROM CFAE TARIFF (LIMITED)49128, CTC (LIMITED)49128, WHICH BECAME EFFECTIVE AUGUST 12, 1985.

(2) APPLICABLE IN GRAVITY FLOW COVERED HOPPER CARS.

EFFECTIVE NOV 4, 1985, EXCEPT AS NOTED

TARIFF	ITEM	REF MK	STCC	COM CODE	ITEM
CFAE4415-A	15100-K		32 411 15	22	15100-K

Cda Cement

CEMENT.

IN BULK, IN PRESSURE UNLOADING COVERED HOPPER CARS, WHICH EQUIPMENT THE CARRIERS ARE NOT OBLIGATED TO FURNISH, EXCEPT AS NOTED.

(E31)RATES IN CENTS PER TON OF 2,000 LBS, EXCEPT AS NOTED

FROM STATION	SPLC	TO STATION		SPLC	MIN. WGT.	RATES	ROUTE	
PQ JOLIETTE	032150	NB MONCTON	(CWT)	015200	140M	(BLK)(CHC) 184	N10	GB
PQ JOLIETTE	032150	NS AULD COVE		010803	190M	(A) 3436	N10	GC
PQ JOLIETTE	032150	NS BEDFORD	(T)	012460	190M	3394	N10	GD
PQ JOLIETTE	032150	NS HALIFAX		012500	190M	3394	N10	GE
PQ JOLIETTE	032150	PQ AMOS		038136	190M	2613	N10	GF
PQ JOLIETTE	032150	PQ LA SARRE		038922	190M	3357	N10	GG
PQ JOLIETTE	032150	PQ MATAGAMI		036742	190M	3819	N10	GH
PQ JOLIETTE	032150	PQ NORANDA		038400	190M	3054	H4630	GI
PQ JOLIETTE	032150	PQ NORANDA (ROUYN)		038406	190M	3054	N10	GL
PQ JOLIETTE	032150	PQ QUEVILLON		038801	190M	2726	N10	GM
PQ JOLIETTE	032150	PQ ROUYN		038308	190M	3054	H4630	GN
PQ JOLIETTE	032150	PQ SENNETERRE		038106	190M	2514	N10	GO
PQ JOLIETTE	032150	PQ VAL D'OR		038425	190M	2479	N10	GP
PQ MONTREAL	030000	ON OTTAWA		040200	140M	(BLK)(CHC) 1440	NP10	GQ
PQ MONTREAL	030000	ON OTTAWA		040200	190M	1559	NP10	GR
PQ MONTREAL	030000	PQ AMOS		038136	190M	2613	N10	GS
PQ MONTREAL	030000	PQ LA SARRE		038922	190M	3357	N10	GT
PQ MONTREAL	030000	PQ MATAGAMI		036742	190M	3819	N10	GU
PQ MONTREAL	030000	PQ NORANDA		038400	190M	3054	P630K	GX
PQ MONTREAL	030000	PQ NORANDA (ROUYN)		038406	190M	3054	N10	GY
PQ MONTREAL	030000	PQ QUEBEC		033000	140M	(BLK)(CHC) 1559	NP10	GZ
PQ MONTREAL	030000	PQ QUEBEC		033000	190M	1699	NP10	G1
PQ MONTREAL	030000	PQ SENNETERRE		038106	190M	2514	N10	G2
PQ MONTREAL	030000	PQ VAL D'OR		038425	190M	2479	N10	G4

(T) TRANSFERRED OCT 7, 1985 FROM CFAE TARIFF (LIMITED)49128, CTC (LIMITED)49128, WHICH BECAME EFFECTIVE AUGUST 12, 1985.

FOR EXPLANATION OF OTHER REFERENCE MARKS SEE CONCLUDING PAGES OF TARIFF, AS AMENDED.

SCHEDULE OF RATES TO APPLY FROM POINTS IN NEW BRUNSWICK OR NOVA SCOTIA VIA CEMENT CARTAGE CO. LTD. OR ALBANY CARTAGE CO. LTD. TO DESTINATIONS IN NEW BRUNSWICK AND NOVA SCOTIA.

EFFECTIVE OCTOBER 3, 1985

OCT 3 6 1985

KILOMETERS	RATE/TONNE	RATE/TONNE	KILOMETERS	RATE/TONNE	RATE/TONNE
1 - 10	3.78	3.40	351 - 360	27.97	25.17
11 - 20	4.37	3.93	361 - 370	28.87	25.98
21 - 30	4.83	4.35	371 - 380	29.57	26.61
31 - 40	5.41	4.87	381 - 390	30.28	27.25
41 - 50	6.04	5.44	391 - 400	31.21	28.09
51 - 60	7.30	6.57	401 - 410	31.88	28.69
61 - 70	8.06	7.25	411 - 420	32.56	29.30
71 - 80	8.80	7.92	421 - 430	33.19	29.87
81 - 90	8.97	8.07	431 - 440	33.89	30.50
91 - 100	10.31	9.28	441 - 450	34.56	31.10
101 - 110	10.93	9.84	451 - 460	35.26	31.73
111 - 120	11.61	10.45	461 - 470	36.24	32.62
121 - 130	12.22	11.00	471 - 480	36.86	33.17
131 - 140	12.98	11.68	481 - 490	37.54	33.79
141 - 150	13.66	12.29	491 - 500	38.24	34.42
151 - 160	14.28	12.85	501 - 510	38.93	35.04
161 - 170	14.92	13.43	511 - 520	39.60	35.64
171 - 180	15.71	14.14	521 - 530	40.28	36.25
181 - 190	16.39	14.75	531 - 540	41.31	37.18
191 - 200	17.03	15.33	541 - 550	42.00	37.80
201 - 210	17.68	15.91	551 - 560	42.71	38.44
211 - 220	18.32	16.49	561 - 570	43.34	39.01
221 - 230	18.97	17.07	571 - 580	44.46	40.01
231 - 240	19.66	17.69	581 - 590	45.12	40.61
241 - 250	20.26	18.23	591 - 600	45.81	41.23
251 - 260	20.93	18.84	601 - 610	46.47	41.82
261 - 270	21.79	19.61	611 - 620	47.53	42.82
271 - 280	22.42	20.18	621 - 630	48.32	43.49
281 - 290	23.09	20.78	631 - 640	49.02	44.12
291 - 300	23.74	21.37	641 - 650	50.58	45.52
301 - 310	24.39	21.95	651 - 660	51.29	46.16
311 - 320	25.04	22.54	661 - 670	51.99	46.79
321 - 330	25.70	23.13	671 - 680	52.70	47.43
331 - 340	26.60	23.94	681 - 690	53.40	48.06
341 - 350	27.26	24.53	691 - 700	54.11	48.70

Accepted for Filing
OCT 7 1985
NEW BRUNSWICK MOTOR CARRIER BOARD

Notes:
1. Minimum load for payment - 19 tonnes.
2. Add $1.87/tonne for Soil Cement Stabilization projects in N. B. $1.68/tonne*.
3. Special rate to following destinations ex Havelock, N.B.
   a). Saint John, N.B. - Domestic - $11.67/t $10.50/t*
   b). Saint John, N.B. - Export - $8.33/t $7.50/t*
   c). Brookfield Plant (Brookfield, N.S.) - $15.76/t $14.18/t*
   d). Grand Manan, N.B. - $35.67/t $32.10/t*
   e). Brookfield Plant (Brookfield, N.S.) Backhaul only - $9.33/t $8.40/t*
4. Special rate to following destinations ex Brookfield, N.S.
   a). Halifax, N. S. - Export -
   b). Havelock, N.B. - $15.76/t $14.18/t*
   c). Havelock, N.B. - Backhaul only - $9.33/t $8.40/t*
   d). Chatham, N.B. - Backhaul only - $12.22/t $11.00/t*
5. Special rate on full load (min. 24 tonnes for payment) bag shipments to: Edmundston and/or Grand Falls - $26.43/t $23.79/t*, St. Francois - 29.68/t 26.71 St. Quentin - 27.68/t 24.91/t*
6. Special rate on cement clinker in dump trailers ex. Brookfield, N.S. to Havelock, N.B. - $13.48/t $12.13/t*
7. Intermediate destinations on a split load delivery should be paid for at the rate c the furtherest destination.

*Reduced rates to apply subject to the provisions of the Atlantic Regional Special Selective ar Provisional Assistance Regulations.

SUPPLEMENT 84 TO TARIFF CFAE 4415-A

SECTION 2

COMMODITIES AND APPLICATION

EFFECTIVE JUL 1, 1985

TARIFF	ITEM	REF MK	STCC	COM CODE	ITEM
CFAE 4415-A	30800-E	(S81)		57G	30800-E

BOARDS OR **SHEETS,** LAMINATED OR NOT LAMINATED, NOT LESS THAN 1/8 OF AN INCH IN THICKNESS, FLAT, MANUFACTURED FROM SAWDUST, GROUND WOOD, WOOD CHIPS, WOOD FIBRE, WOOD SHAVINGS OR WOOD WASTE WITH OR WITHOUT ADDED RESIN BINDER NOT TO EXCEED 10 PERCENT BY WEIGHT, COMPRESSED, PLAIN, PERFORATED, PLANED, SANDED, GROOVED OR SURFACE CUT, NOT EMBOSSED, PLASTICIZED NOR ENAMELED OR LACQUERED AND NOT FURTHER FINISHED THAN HAVING TWO COATS OF PAINT, RESULTING IN FLAT FINISH OR MAY BE TREATED WITH ASPHALT PITCH OR OR TAR AND MAY BE COATED WITH CRUSHED STONE.

BOARDS OR SHEETS AS DESCRIBED HEREIN MAY BE GIVEN A PRIME COAT OF SEALER PRIOR TO THE APPLICATION OF THE PAINT

(E31)(MFRA)*RATES IN CENTS PER 100 LBS*

FROM STATION	SPLC	TO STATION	SPLC	MIN. WGT.	RATES	ROUTE	
NS East River	012944	PQ St Romuald	021741	100M	192	N10	GC

EFFECTIVE JUL 1, 1985

TARIFF	ITEM	REF MK	STCC	COM CODE	ITEM
CFAE 4415-A	30850-F	(S79)	32 411 15	22	30850-F

CEMENT.
APPLICABLE IN GRAVITY FLOW COVERED HOPPER CARS.

(E31)(B1)*RATES IN CENTS PER 100 LBS*

FROM STATION	SPLC	TO STATION	SPLC	MIN. WGT.	RATES	ROUTE	
NS Broofield	012235	NB Chatham	015330	180M	51	N10	GB

EFFECTIVE MAY 24, 1985

TARIFF	ITEM	REF MK	STCC	COM CODE	ITEM
CFAE 4415-A	30900-I	(S77)	32 412 35	S 22	30900-I

CEMENT, IN BULK, IN COVERED HOPPER CARS.
ITEM IS WITHDRAWN AND CANCELLED, ACCOUNT OBSOLETE.

EFFECTIVE JUL 1, 1985

TARIFF	ITEM	REF MK	STCC	COM CODE	ITEM
CFAE 4415-A	30950-D	(S79)		22	30950-D

CEMENT.
IN PACKAGES, IN STANDARD BOX CARS, EXCEPT AS NOTED.

(E31)(B1)*RATES IN CENTS PER 100 LBS*

FROM STATION	SPLC	TO STATION	SPLC	MIN. WGT.	RATES	ROUTE	
NB Havelock	016921	NF Corner Brook	008806	52.5M	463	N10	GB
NB Havelock	016921	NF Corner Brook	008806	90M	427	N10	GC
NB Havelock	016921	NF St John's	008102	52.5M	606	N10	GD
NB Havelock	016921	NF St John's	008102	90M	555	N10	GE
NB Havelock	016921	PE Albany	014850	150M	(BLK)(CHC) 64	N10	GF

EFFECTIVE MAY 24, 1985

TARIFF	ITEM	REF MK	STCC	COM CODE	ITEM
CFAE 4415-A	30975-E	(S77)	32 412 35	22	30975-E

CEMENT, IN BULK, IN COVERED HOPPER CARS.
ITEM IS WITHDRAWN AND CANCELLED, ACCOUNT OBSOLETE.

EFFECTIVE JUL 1, 1985

TARIFF	ITEM	REF MK	STCC	COM CODE	ITEM
CFAE 4415-A	31100-G	(S79)		22	31100-G

CEMENT.
IN BAGS, IN STANDARD BOX CARS, EXCEPT AS NOTED.

RATES ARE MAXIMUM RATES AND MUST NOT BE EXCEEDED TO INTERMEDIATE POINTS.

(E31)(B1)*RATES IN CENTS PER 100 LBS*

FROM STATION	SPLC	TO STATION	SPLC	MIN. WGT.	RATES	ROUTE	
NF Corner Brook	008806	NF Alexander Bay	008542	90M	150	N10	GA
NF Corner Brook	008806	NF Argentia	008268	90M	182	N10	GB
NF Corner Brook	008806	NF Arnold's Cove	008332	90M	180	N10	GD
NF Corner Brook	008806	NF Carbonear	008206	90M	241	N10	GK
NF Corner Brook	008806	NF Gander	008572	90M	130	N10	GL
NF Corner Brook	008806	NF Grand Falls	008674	90M	120	N10	GM
NF Corner Brook	008806	NF Lewisporte	008608	90M	126	N10	GO

Item 31100-G Cont'd on next page

FOR EXPLANATION OF OTHER REFERENCE MARKS, SEE CONCLUDING PAGES OF TARIFF, AS AMENDED.

APPENDIX V (4)

A & M TRANSPORT LTD.
HAVELOCK, N.B.
PHONE 534-2330
EOA 1W0

TARRIF "H"

RATES TO U.S.A. FOR HAVELOCK PROCESSING LTD.

Effective Date - October 1, 1985

Woodland	21.70 per ton.
Millinocket	25.40 per ton.
Lincoln	24.00 per ton.
Old Town	26.20 per ton.
Skowhegan	34.80 per ton.
Jay	39.20 per ton.
Westbrook	46.40 per ton.
Rumford	41.60 per ton.

Rates Accepted For Filing
SEP 19 1985
NEW BRUNSWICK
MOTOR CARRIER BOARD

SUPPLEMENT 298 TO TARIFF CFAE 3600-A

SECTION 1

COMMODITIES AND APPLICATION

EFFECTIVE JUN 27, 1985

TARIFF ITEM REF MK | STCC | COM CODE | ITEM
CFAE3600-A 27690-D (S285) | 28 128 15 | 50 | 27690-D

GAS, CHLORINE, LIQUEFIED, IN TANK CARS.

(CU 3600-44) (X-083)RATES IN CENTS PER TON OF 2,000 LBS

FROM STATION	SPLC	TO STATION	SPLC	MIN. WGT.	RATES	ROUTE	
ON SARNIA	047600	DE REYBOLD	221268	(MR180)	4858	118	GD
ON SARNIA	047600	MI LUDINGTON (G)	314670	(MR180)	2206	41	GE

(G) FILED ON FIVE DAY'S NOTICE; EFFECTIVE JUNE 27, 1985.

EFFECTIVE AUG 17, 1985

TARIFF ITEM REF MK | STCC | COM CODE | ITEM
CFAE3600-A 29645-D (S294) | 32 754 37 | 57 | 29645-D

GYPSUM BOARD AND/OR PLASTERBOARD.
APPLICABLE ONLY ON BULKHEAD FLAT CARS NOT EXCEEDING 52 FEET 8 INCHES IN LENGTH.

(PA 8118) (X-083)RATES IN CENTS PER 100 LBS, EXCEPT AS NOTED

FROM STATION	SPLC	TO STATION	SPLC	MIN. WGT.	RATES	ROUTE	
ON CALEDONIA	045344	IL CHICAGO	380000	140M	(X-084) 114	6	GA
ON CALEDONIA	045344	MI EDWARDSBURG	319893	140M	(X-084) 96	6	GB
ON CALEDONIA	045344	PA POTTSTOWN	207426	140M	(X-084) 132	118	GC
ON HAGERSVILLE	045580	VA CHARLOTTESVILLE	258400	130M	200	(H1)	GD
ON HAGERSVILLE	045580	VA CHRISTIANSBURG	264927	130M	210	(H2)	GH
ON HAGERSVILLE	045580	VA NORFOLK	261000	130M	228	(H2)	GL
ON HAGERSVILLE	045580	VA PORTSMOUTH	261100	130M	228	(H2)	GP

(H1) VIA ROUTES 492, 568.
(H2) VIA ROUTES 485, 565.

EFFECTIVE AUG 17, 1985

TARIFF ITEM REF MK | STCC | COM CODE | ITEM
CFAE3600-A 29647 (S294) | 32 754 37 | | 29647

GYPSUM BOARD AND/OR PLASTERBOARD, ON BULKHEAD FLAT CARS NOT EXCEEDING 52 FEET 8 INCHES IN LENGTH.

(PA 8119) (X-084)CHARGE IN DOLLARS PER CAR

FROM STATION	SPLC	TO STATION	SPLC	MIN. WGT.	CHARGES	ROUTE	
ON CALEDONIA	045344	MA PALMER	148143	ABOVE	$2109.00	724	GL

EFFECTIVE AUG 24, 1985

TARIFF ITEM REF MK | STCC | COM CODE | ITEM
CFAE3600-A 30880-J | 32 741 10 | | 30880-J

LIME, IN BULK, IN COVERED HOPPER CARS.

(PA 8137) (X-083)RATES IN CENTS PER TON OF 2,000 LBS, EXCEPT AS NOTED

FROM STATION	SPLC	TO STATION	SPLC	MIN. WGT.	RATES	ROUTE	
PQ JOLIETTE	032150	ME GREAT WORKS (2)	113679	140M	3886 ~~(H) 3719~~	(H5)	GM
PQ JOLIETTE	032150	ME OLD TOWN	113650	140M	3886 ~~(H) 3719~~	377	GP
PQ JOLIETTE	032150	NY ROME (R)(G)(E)	181770	140M	(M9000)(X-084) 4326	593	GQ

(E) EXPIRES WITH OCTOBER 31, 1985, UNLESS SOONER CANCELLED, CHANGED OR EXTENDED.
(G) EFFECTIVE AUGUST 24, 1985.
(2) GREAT WORKS (PENOBSCOT CO), ME.
(H5) VIA ROUTES 377, 3327.

EFFECTIVE JUL 13, 1985

TARIFF ITEM REF MK | STCC | COM CODE | ITEM
CFAE3600-A 34090 (S286) | 29 912 45 | | 34090

MOTOR FUEL ANTI-KNOCK COMPOUNDS, IN TANK CARS.
VOLUME COMMITMENT 6500 TONS ANNUALLY.
IF DUE TO U.S. OR CANADIAN GOVERNMENT REGULATIONS, A BAN ON LEADED FUEL IS ENACTED, SHIPPER IS RELIEVED OF VOLUME COMMITMENT.

(PA 8025) (X-084)RATES IN CENTS PER 100 LBS

FROM STATION	SPLC	TO STATION	SPLC	MIN. WGT.	RATES	ROUTE	
ON SARNIA	047600	NJ CARNEY'S POINT (3)	198731	(MR114)	(2) 260.5900		GB

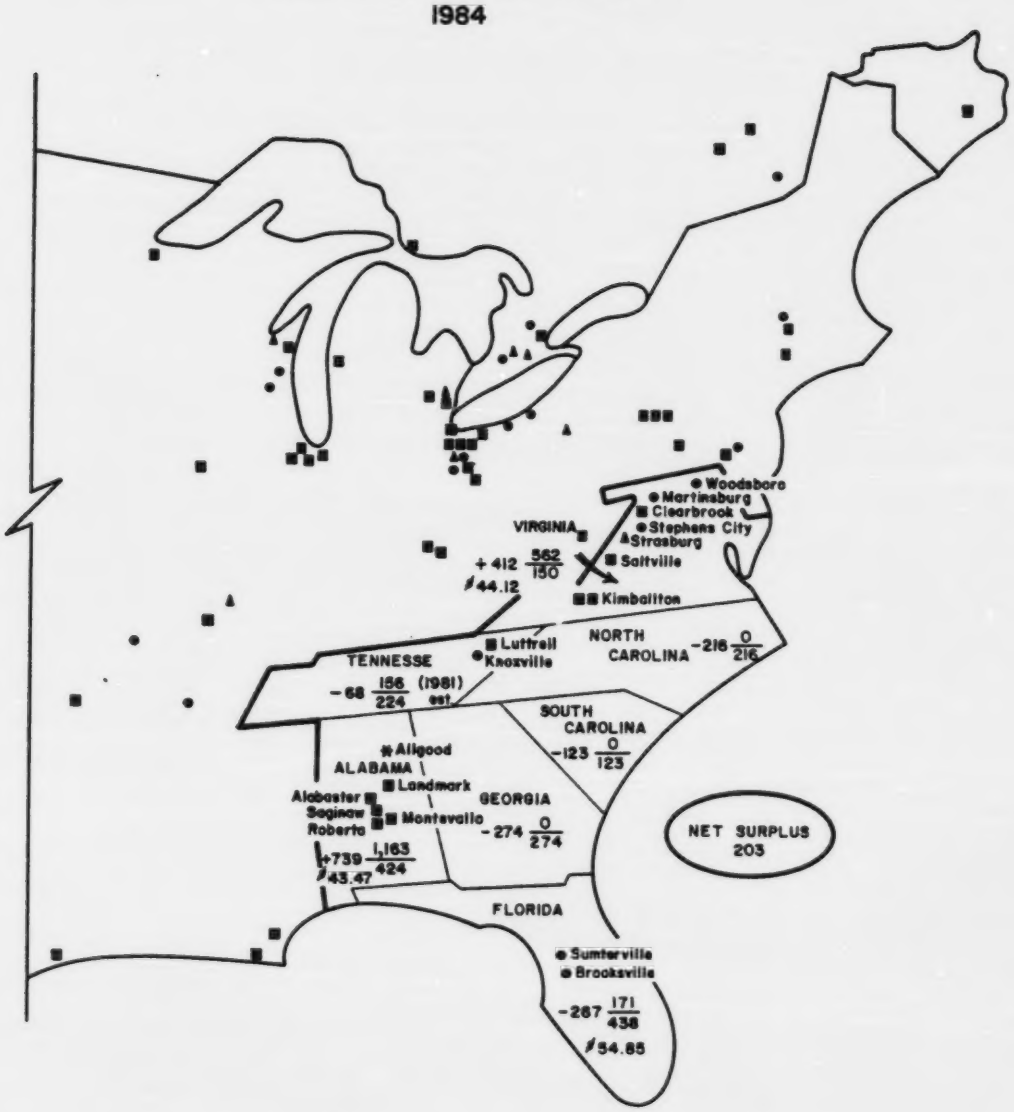
(2) RATE IN U.S. FUNDS.
(3) CARNEY'S POINT (DEEPWATER), NJ.

FOR EXPLANATION OF OTHER REFERENCE MARKS, SEE CONCLUDING PAGES OF TARIFF, AS AMENDED.

APPENDIX VI

Lime Statistics on Areas of the Eastern United States which could be Prospective Markets for an East Coast Producer

LIME PRODUCTION and CONSUMPTION
SOUTHEAST UNITED STATES
1984



■ *Rotary kiln*

● *Vertical or other*

▲ *Both types*

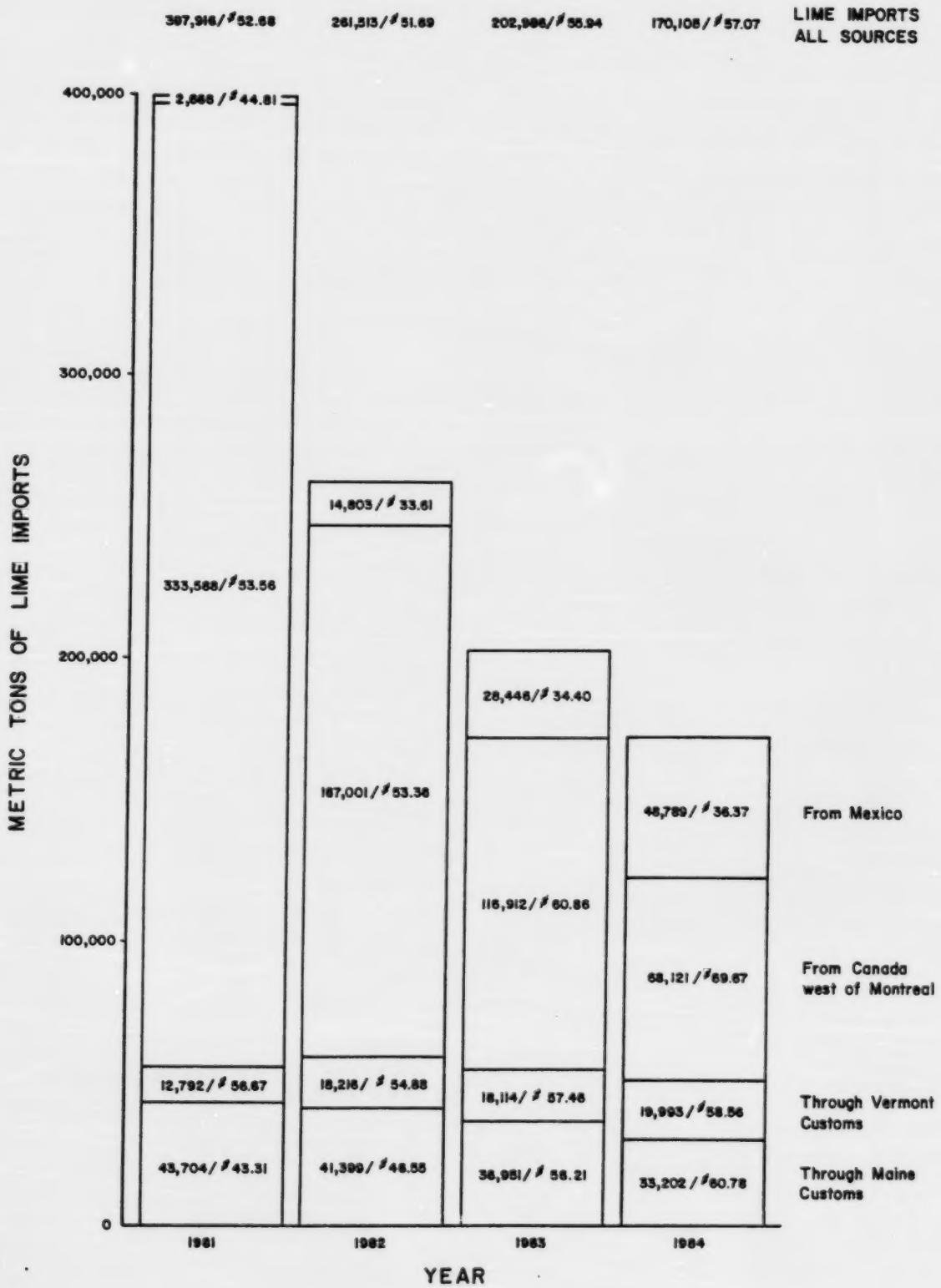
* *Hydrating only*

Apparent Surplus or Deficit → -187 0/187 ← *Production (Apparent)* ← *Consumption (Apparent)*

in thousands of short tons

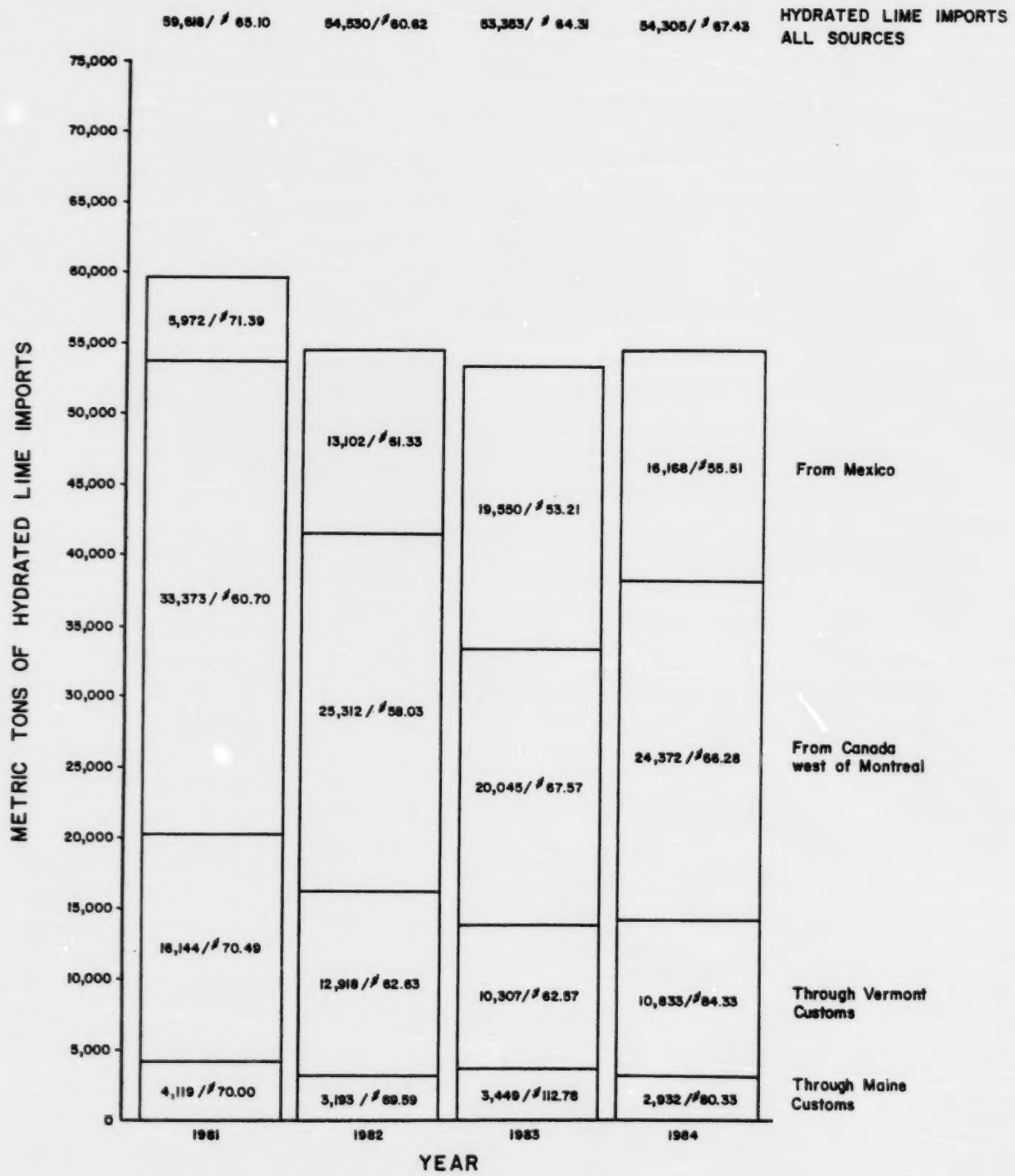
$54.85 *Value of shipments in U.S. $ / short ton*

United States Imports of Lime.
Metric tons and average C.I.F. value in
U.S. dollars per tonne as declared to customs.
Does not include hydrated lime.



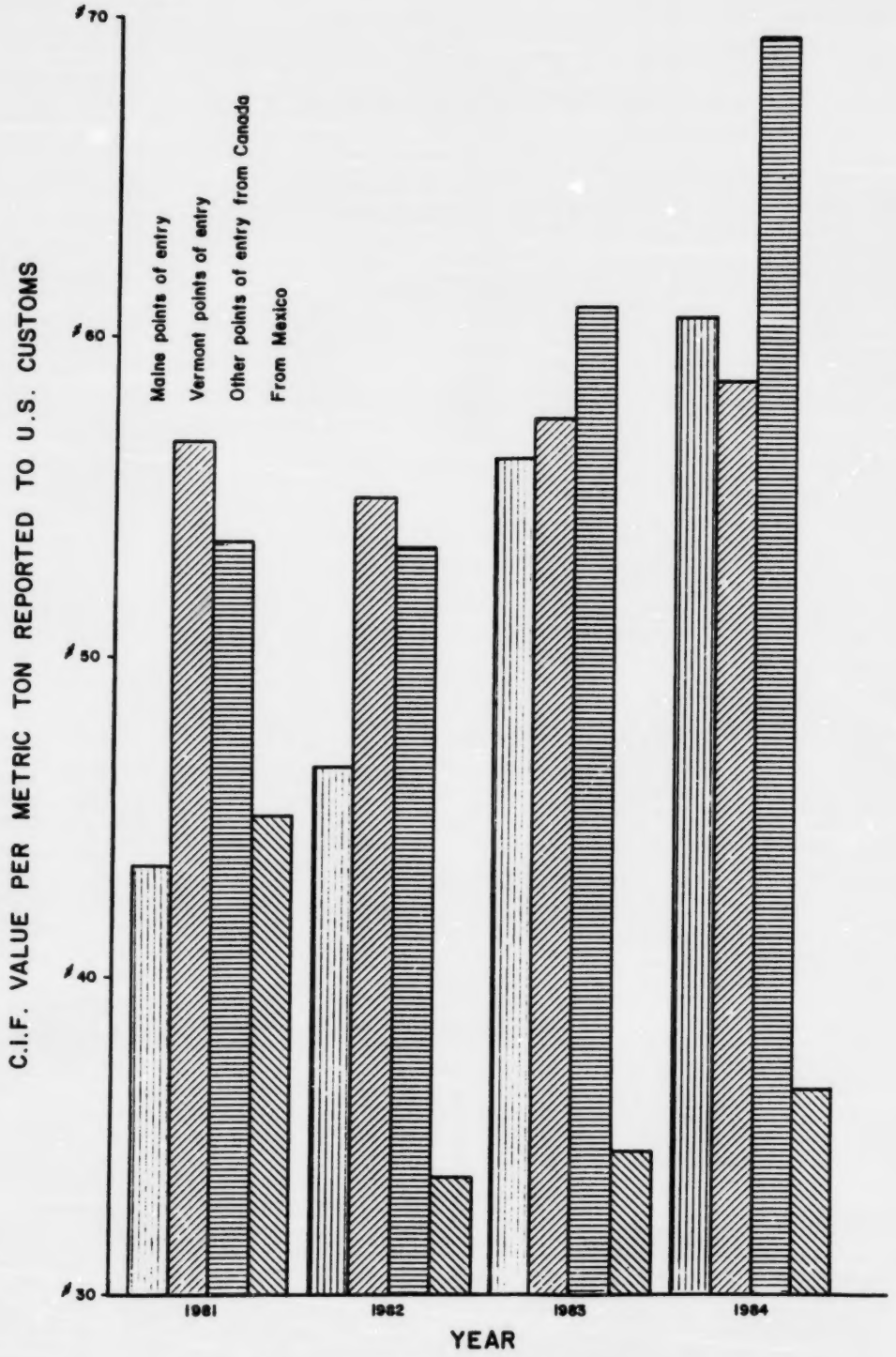
Source : U.S. Bureau of Mines, Customs Data, Jean W. Pressler (202 - 634 - 1206)

United States Imports of Hydrated Lime.
Average value in U.S. dollars per tonne as declared to customs.



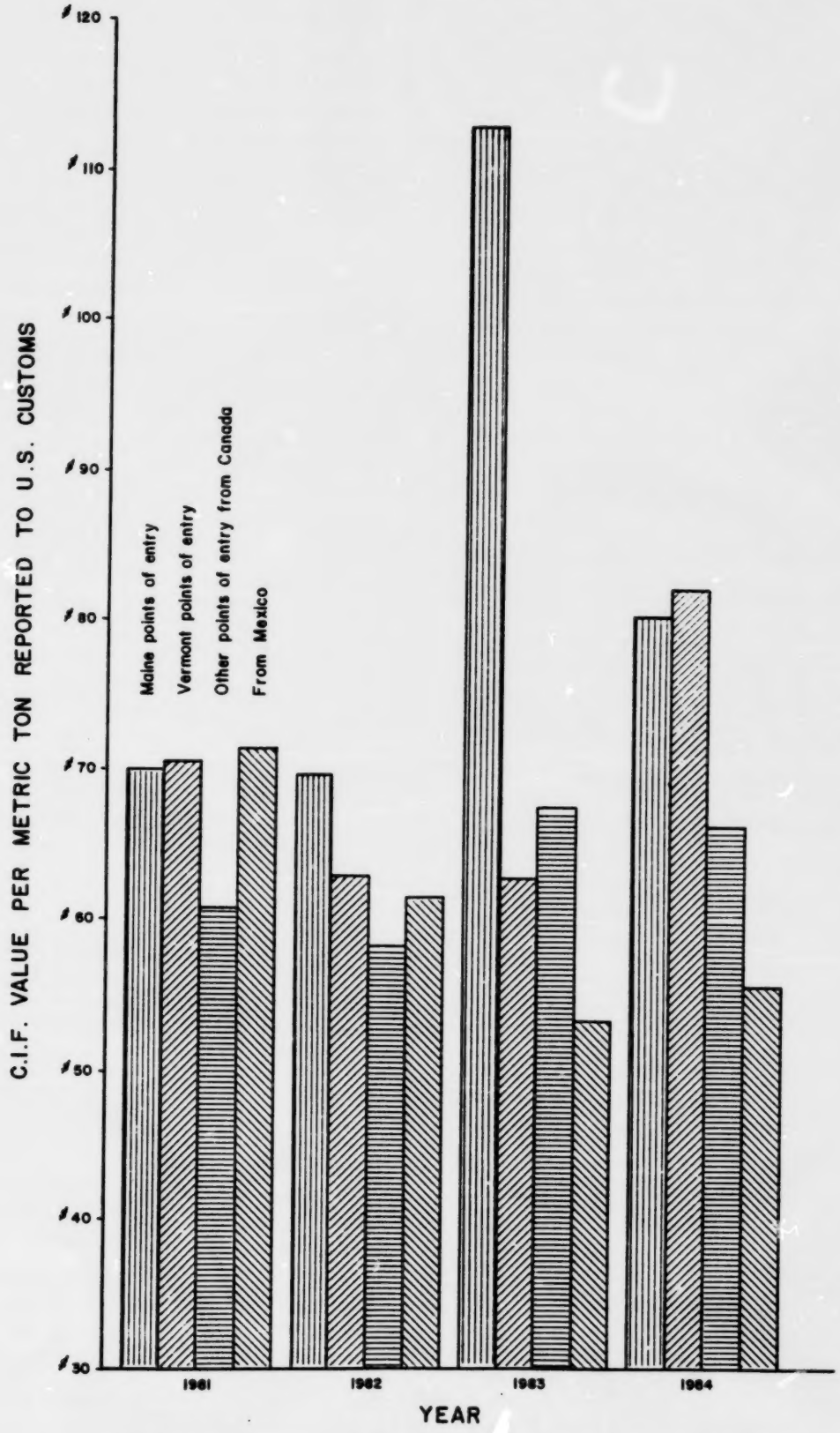
Source: U.S. Bureau of Mines, Customs Data, Jean W. Pressler (202 - 634 - 1206)

C.I.F. value of lime imported to the
United States from various sources (U.S. dollars)



Source: U.S. Bureau of Mines, Customs Data, Jean W. Pressler (202 - 634 - 1206)

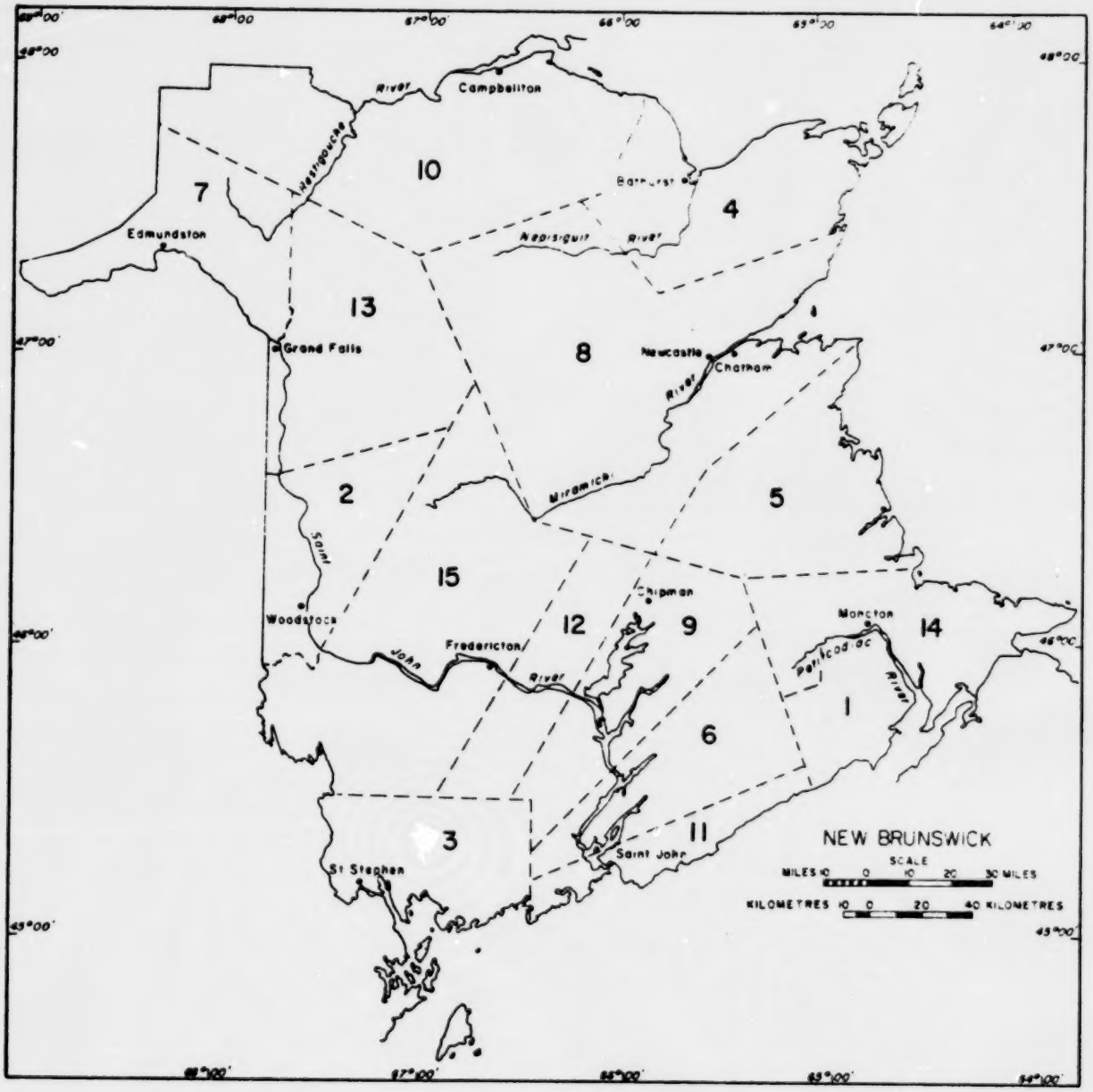
C.I.F. value of hydrated lime imported to the United States from various sources (U.S. dollars)



Source : U.S. Bureau of Mines, Customs Data, Jean W Pressler (202 - 634 - 1206)

APPENDIX VII

Subsidized Agricultural Limestone Consumption by County - Historical and Present


Campbellton
Restigouche River
Edmundston
Grand Falls
Bathurst
Nepisiguit River
Newcastle
Chatham
Miramichi River
Saint John River
Woodstock
Fredericton
Chipman
Moncton
Petitcodiac River
St Stephen
Saint John
NEW BRUNSWICK
SCALE
MILES 10 0 10 20 30 MILES
KILOMETRES 10 0 20 40 KILOMETRES

SUBSIDIZED AGRICULTURAL LIMESTONE CONSUMPTION
BY COUNTY - DEPARTMENT OF AGRICULTURES ANNUAL REPORTS AND FILES
1947 - 1977
(Numbers may not add to total due to rounding)

	COUNTY	Fiscal Year (tons)													
		1946-7	1947-8	1948-9*	1949-50	1951-2	1952-3	1953-4	1954-5	1955-6	1956-7	1957-8	1958-9	1959-60	1960-1
1.	Albert	738	1,079	831	1,271	573	1,035	1,138	826	783	730	1,091	1,315	735	1,320
2.	Carleton	12,308	11,773	9,775	8,034	11,309	6,769	4,416	4,076	4,050	3,960	4,349	6,580	7,550	8,483
3.	Charlotte	1,474	1,871	1,621	881	608	531	649	330	298	200	489	516	547	397
4.	Gloucester	5,740	5,703	7,287	4,076	6,927	2,927	3,309	3,788	1,694	1,419	1,802	1,584	2,365	2,226
5.	Kent	11,006	9,720	7,672	6,831	9,499	4,443	3,632	4,019	3,024	2,750	2,778	5,051	5,035	4,376
6.	Kings	4,576	5,411	5,639	5,188	5,090	5,200	4,683	4,767	4,552	3,804	4,987	5,864	6,392	6,773
7.	Madewaska	4,215	4,502	3,990	3,072	4,201	1,504	1,702	1,643	1,046	1,800	1,817	2,172	2,610	3,798
8.	Northumberland	3,436	4,029	3,965	1,966	2,714	1,528	1,048	1,154	1,015	1,089	891	1,173	1,755	1,530
9.	Queens	4,592	3,900	4,263	2,570	3,139	2,096	1,485	975	1,040	916	986	1,199	1,013	1,293
10.	Restigouche	2,840	2,971	3,235	2,633	2,836	1,934	1,722	1,692	1,614	1,758	1,771	2,260	2,509	2,985
11.	St. John	390	487	450	485	305	381	222	319	268	261	310	295	258	206
12.	Sunbury	1,098	1,213	747	678	716	541	572	326	537	579	768	593	556	655
13.	Victoria	4,436	4,761	3,875	3,119	4,543	2,850	2,453	2,508	3,089	3,000	2,976	3,611	3,844	5,657
14.	Westmorland	9,687	12,038	10,084	9,258	8,390	7,763	5,657	6,295	5,519	4,995	4,662	6,424	5,248	6,622
15.	York	10,607	9,564	8,918	7,080	8,057	3,685	3,123	2,738	2,129	2,033	2,594	3,245	3,436	3,518
	TOTAL	77,145	79,021	72,351	57,153	68,905	43,186	35,810	35,457	30,654	29,293	32,273	41,880	44,028	49,939

* Annual report notes that 834,327 tons of limestone "ore recorded as having been used by farmers in New Brunswick since institutionof the Lime Policy in 1920".

1 Year end changed from October 31st to March 31st.

	COUNTY	Fiscal Year (tons)										
		1961-2	1962-3	1963-4	1964-5	1965-6	1967-8	1968-9	1969-70	1970-1	1971-2	1976-7
1.	Albert	1,160	608	689	1,131	1,051	556	802	572	764	963	826
2.	Carleton	7,680	6,591	6,746	9,850	10,735	7,387	9,503	8,060	10,274	9,100	18,501
3.	Charlotte	826	630	596	856	713	626	534	428	506	385	1,472
4.	Gloucester	1,885	1,764	1,855	1,569	1,377	1,183	1,406	1,699	1,608	1,281	2,503
5.	Kent	3,081	1,889	2,129	3,317	2,974	2,540	3,507	3,206	2,415	1,271	2,441
6.	Kings	7,622	6,285	8,023	10,210	10,201	9,273	8,382	7,731	8,716	6,559	11,213
7.	Madawaska	3,691	3,353	1,954	2,609	2,640	2,304	1,755	2,316	1,796	2,069	5,385
8.	Northumberland	1,568	1,639	1,224	1,365	1,474	1,187	1,512	1,456	1,357	1,318	2,488
9.	Queens	929	1,236	1,056	1,410	1,353	1,116	1,295	1,094	1,105	1,425	1,439
10.	Restigouche	2,591	2,779	2,361	1,709	1,527	2,165	1,979	1,624	1,052	1,438	4,075
11.	St. John	314	238	178	417	436	694	388	268	479	179	262
12.	Sunbury	580	618	325	813	501	1,338	769	551	470	546	1,217
13.	Victoria	5,555	3,751	4,502	4,368	5,150	5,996	5,718	7,592	6,206	4,949	15,354
14.	Westmorland	6,160	4,432	6,067	7,969	8,714	8,719	8,931	6,687	7,354	4,527	7,980
15.	York	3,565	3,631	3,793	4,925	5,200	4,825	3,879	3,200	3,372	3,174	3,242
	TOTAL	47,206	39,444	41,497	52,517	54,045	49,908	50,360	46,483	47,469	39,184	78,400

* Annual report notes that 834,327 tons of limestone "ore recorded as having been used by farmers in New Brunswick Since institution of the Lime Policy in 1920".

1 Year end changed from October 31st to March 31st.

NEW BRUNSWICK DEPARTMENT OF AGRICULTURE
LIME SUBSIDY
ASSISTANCE REPORT
APRIL 1, 1984 TO MARCH 31, 1985

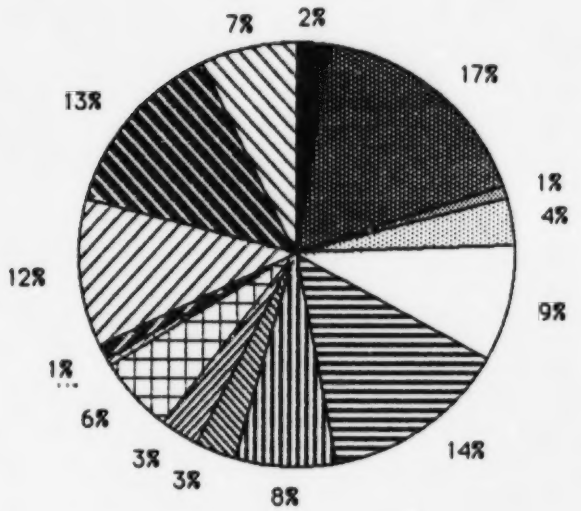
COMPANY	RAIL TONNES	TRUCK TONNES	TONNES
BROOKVILLE			
ALBERT	-	-	-
CARLETON	7,729	3,801	11,530
CHARLOTTE	-	936	936
GLOUCESTER	-	181	181
KENT	-	289	289
KINGS	-	1,194	1,194
MADAWASKA	966	-	966
NORTHUMBERLAND	-	802	802
QUEENS	-	374	374
RESTIGOUCHE	1,482	30	1,512
SUNBURY	-	249	249
ST. JOHN	-	92	92
VICTORIA	3,418	314	3,732
WESTMORLAND	-	475	475
YORK	20	840	860
TOTAL	13,615	9,576	23,191
ELMTREE RES.			
GLOUCESTER	-	371	371
TOTAL	-	371	371
HAVELOCK			
ALBERT	-	1,120	1,120
CARLETON	319	5,228	5,547
CHARLOTTE	-	-	-
GLOUCESTER	53	-	53
KENT	-	3,047	3,047
KINGS	-	4,113	4,113
MADAWASKA	1,209	77	1,285
NORTHUMBERLAND	-	1,058	1,058
QUEENS	-	452	452
RESTIGOUCHE	268	86	354
SUNBURY	-	517	517
ST. JOHN	-	-	-
VICTORIA	6,024	1,303	7,324
WESTMORLAND	-	3,938	3,938
YORK	-	1,804	1,804
TOTAL	7,873	22,741	30,615
UPPER KENT			
CARLETON	-	519	519
VICTORIA	-	40	40
TOTAL	-	559	559
GRAND TOTAL	21,487	33,249	54,736

DEPARTMENT OF AGRICULTURE
AGRICULTURAL LIMESTONE SHIPPED BY COUNTIES
CALENDAR YEAR 1966

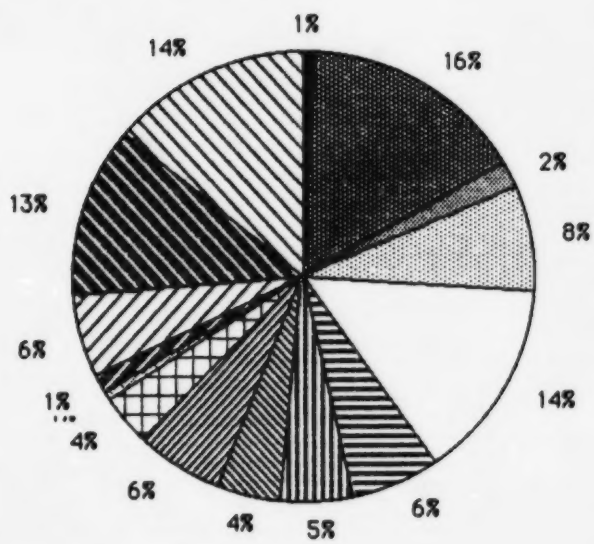
	COUNTY	TOTAL	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1.	Albert	640	-	3	5	22	426	64	-	19	-	46	56	-
2.	Carleton	9,333	-	-	84	1,028	4,186	1,357	36	49	364	1,376	853	-
3.	Charlotte	684	-	-	-	134	175	231	-	24	24	44	52	-
4.	Gloucester	952	-	-	-	-	653	70	-	20	-	149	61	-
5.	Kent	2,795	5	-	5	-	1,006	362	78	10	338	761	212	17
6.	Kings	11,268	3	5	237	1,456	6,219	986	147	209	474	1,137	347	49
7.	Madawaska	2,417	-	40	80	368	595	798	-	40	130	364	-	-
8.	Northumberland	1,490	-	-	-	10	800	159	-	7	20	324	-	-
9.	Queens	1,509	-	6	5	106	684	159	16	131	76	233	66	28
10.	Restigouche	1,507	-	-	-	30	952	171	-	-	110	203	40	-
11.	St. John	393	-	1	129	56	119	14	6	29	8	9	20	3
12.	Sunbury	921	-	1	11	237	554	57	-	-	61	-	-	-
13.	Victoria	4,932	-	200	30	1,047	1,962	1,205	-	43	70	375	-	-
14.	Westmorland	11,256	17	26	221	309	4,262	1,481	200	308	808	2,713	848	62
15.	York	4,593	-	-	75	412	2,232	775	-	42	259	459	266	74
	*TOTALS	54,691	25	282	882	5,315	2,482	7,889	483	1,000	2,742	8,192	2,820	233

*(Numbers may not add to total due to rounding)

DESTINATION OF SUBSIDIZED AGLIME SHIPMENTS
BY COUNTY FOR YEAR ENDING MARCH 31, 1961
(NBDOA Annual Report)



DESTINATION OF AGLIME SHIPMENTS BY COUNTY-
1947 (NBDOA Annual Reports)



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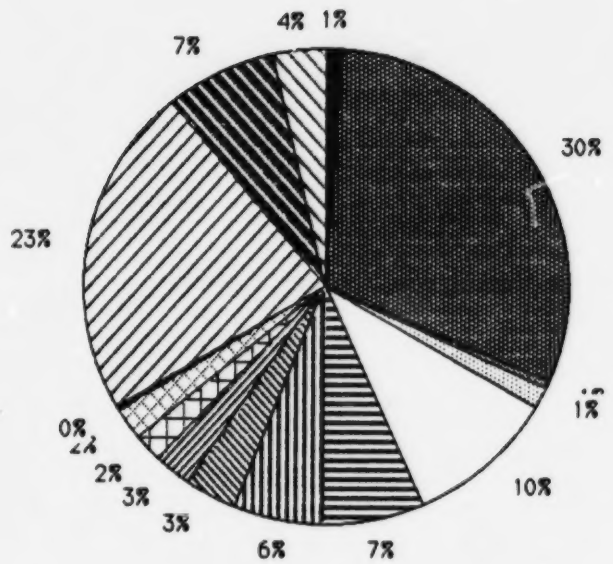
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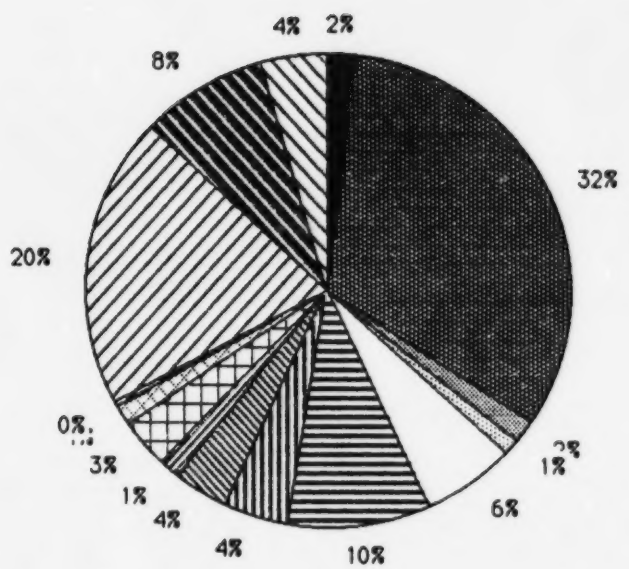
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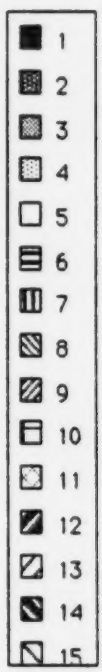
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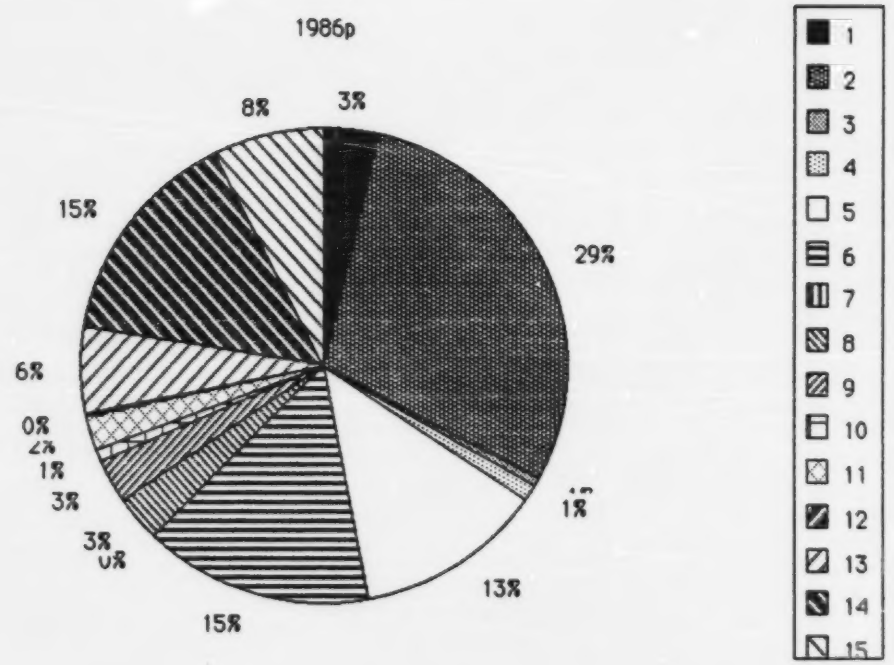
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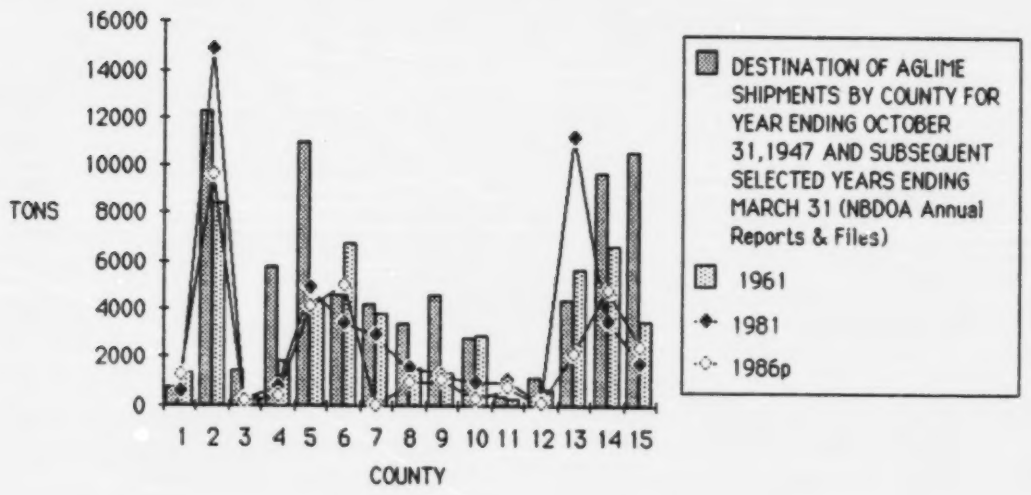
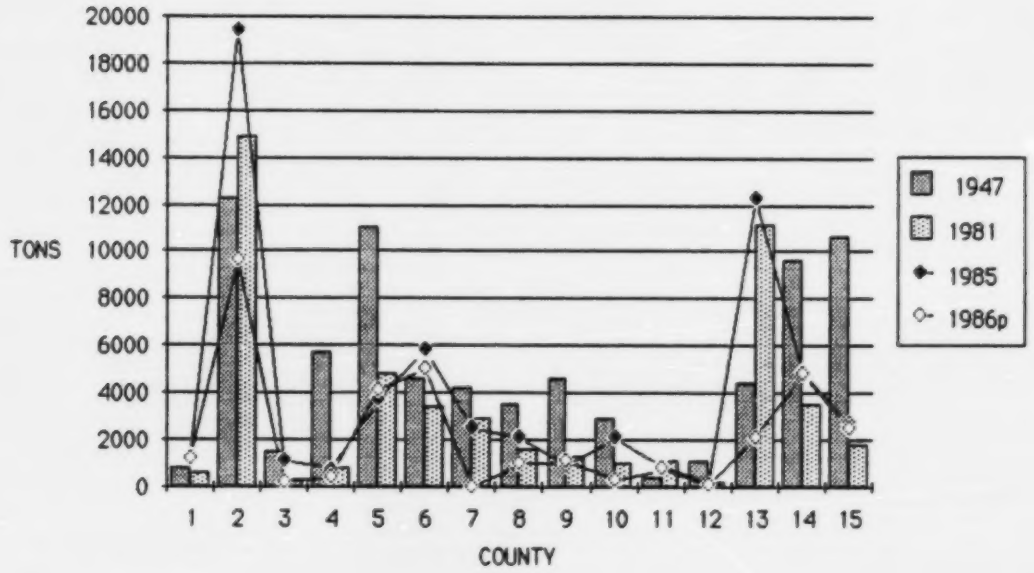
DESTINATION OF AGLIME SHIPMENTS BY COUNTY
FOR YEAR ENDING OCTOBER 31,1947 AND
SUBSEQUENT SELECTED YEARS ENDING MARCH 31
(NBDOA Annual Reports & Files)

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1985
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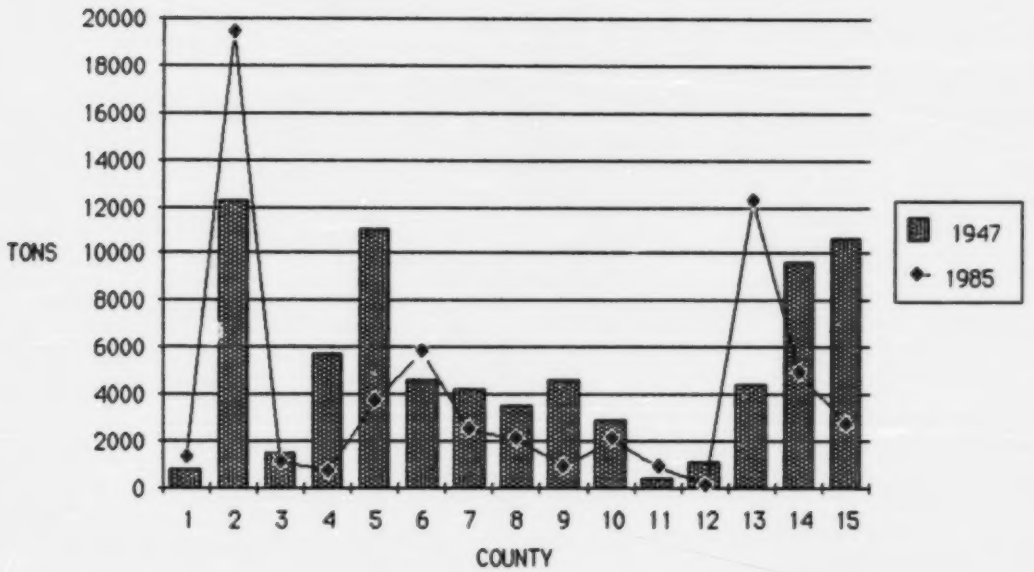
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COUNTY
1947
1985

APPENDIX VIII

Estimated New Brunswick Limestone and
Lime Consumption for 1985, by County

ESTIMATED NEW BRUNSWICK LIMESTONE AND LIME CONSUMPTION FOR 1985 BY COUNTY

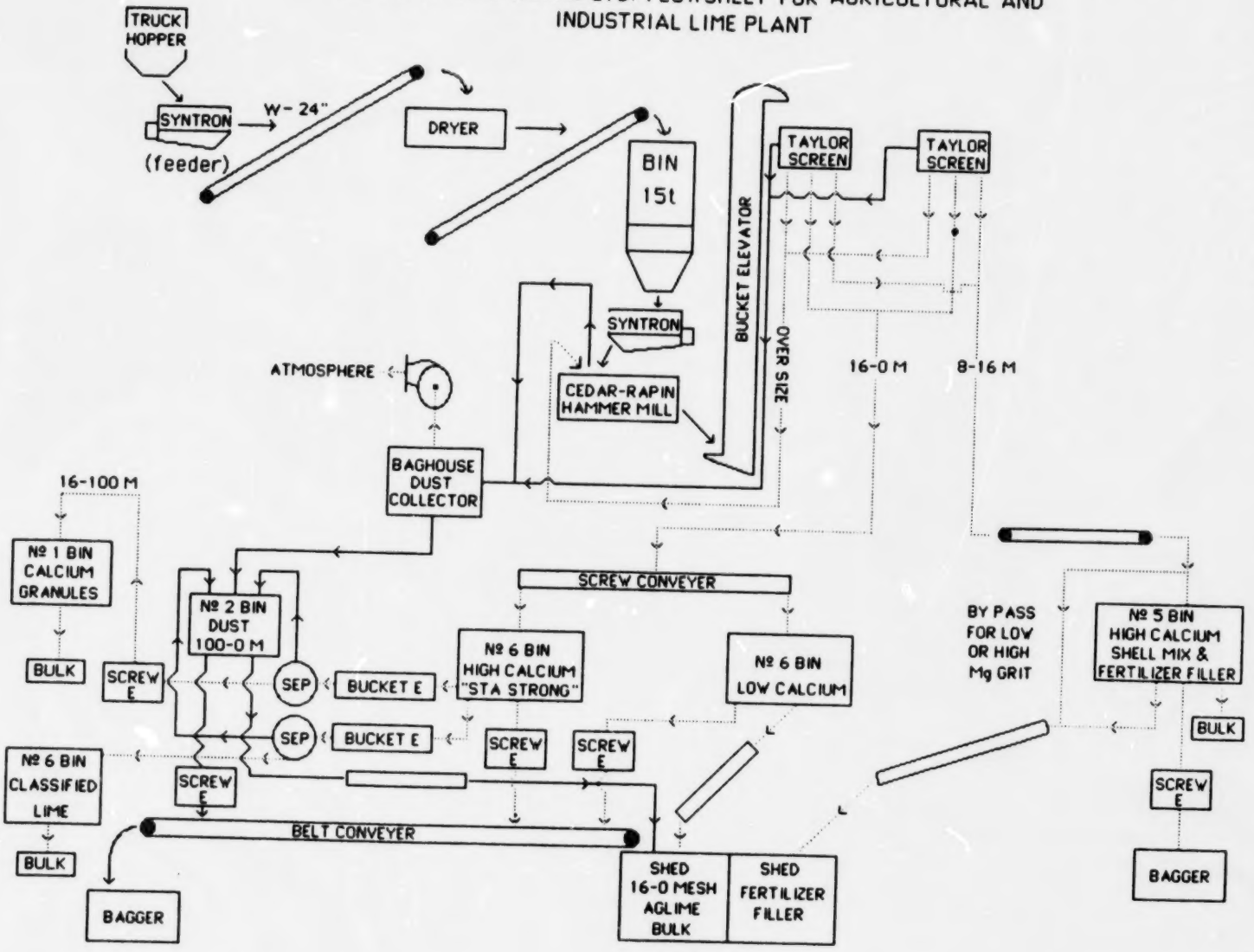
COUNTY	CHEMICAL PROCESS STONE		PULVERIZED STONE		CRUSHED STONE		LIME		TOTAL	
	tonnes	% of total*	tonnes	% of total*	tonnes	% of total*	tonnes	% of total*	tonnes	% of total*
1. Albert	nominal	-	± 1,500	1.6	± 5,000	2.5	nominal		± 6,500	1.5
2. Carleton	nominal	-	±25,000	26.0	0	-	nominal		± 25,000	5.8
3. Charlotte	nominal	-	± 1,500	1.6	0	-	± 75		± 1,575	0.4
4. Gloucester	48,000	50.8	± 3,500	3.6	± 7,000	3.5	±16,500		± 75,000	17.3
5. Kent	nominal	-	± 5,500	5.7	0	-	nominal		± 5,500	1.3
6. Kings	± 1,000	1.1	±12,000	12.5	± 30,000	14.9	nominal		± 43,000	9.9
7. Madawaska	± 1,000	1.1	± 6,000	6.2	0	-	±12,000		± 19,000	4.4
8. Northumberland	±18,000	19.0	± 3,000	3.1	0	-	± 6,800		± 27,800	6.4
9. Queens	± 500	0.5	± 1,200	1.2	0	-	nominal		± 1,700	0.4
10. Restigouche	± 1,000	1.1	± 5,500	5.7	0	-	nominal		± 6,500	1.5
11. Saint John	± 2,500	2.6	± 1,800	1.9	±130,000	64.4	± 4,200		±138,500	32.0
12. Sunbury	± 1,000	1.1	± 1,200	1.2	0	-	nominal		± 2,200	0.5
13. Victoria	± 500	0.5	±19,000	19.8	0	-	nominal		± 19,500	4.5
14. Westmorland	±11,000	11.6	± 6,000	6.2	± 30,000	14.9	nominal		± 47,000	10.9
15. York	±10,000	10.6	± 3,500	3.6	0	-	± 175		± 13,675	3.1
TOTAL	±94,500	100.0	±96,200	99.9	±202,000	100.2	±39,750		±432,450	99.9

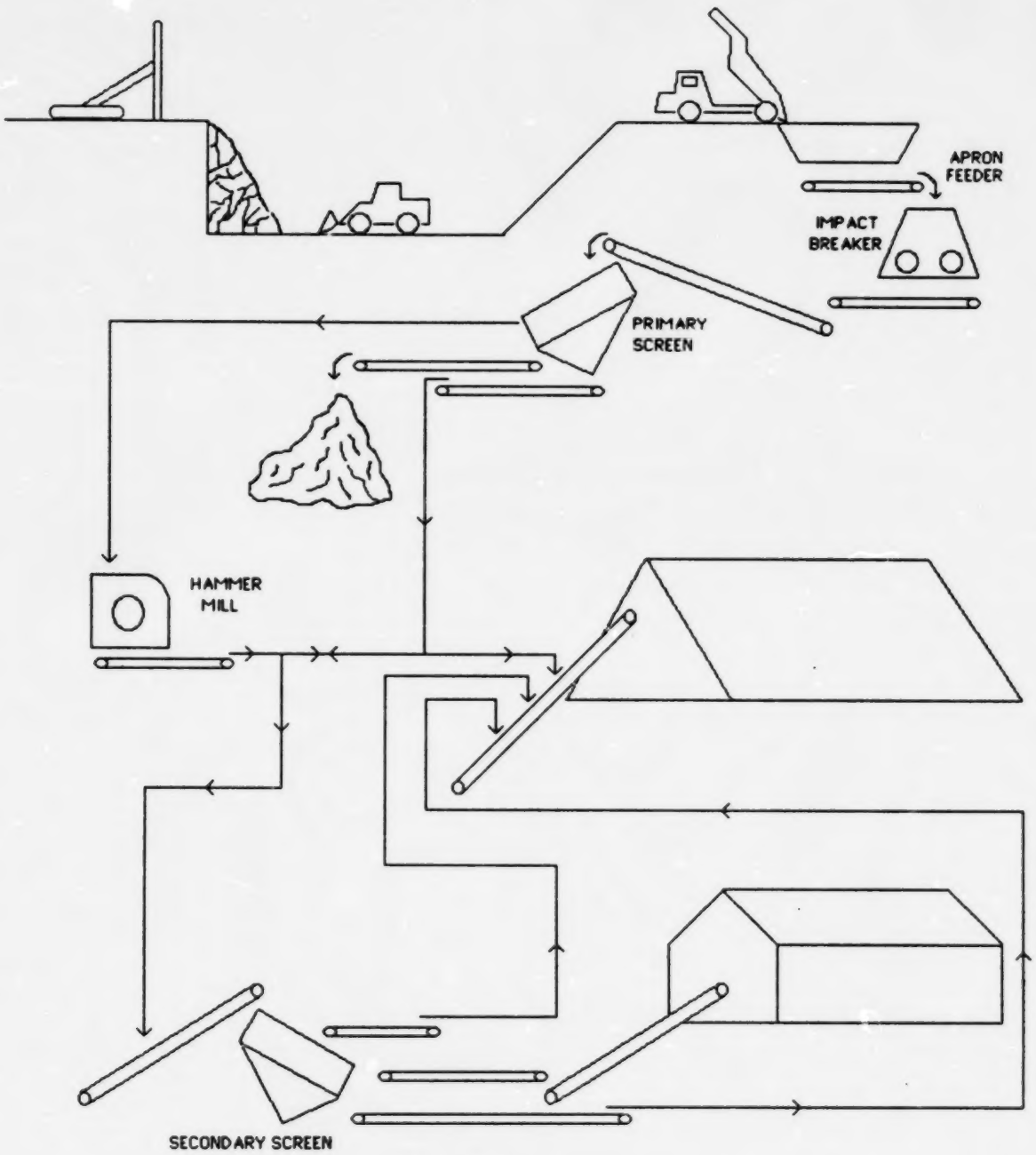
* "% of total" means percentage for the column of estimated total tonnes of all limestone plus lime consumed in New Brunswick, cement production excluded.

APPENDIX IX

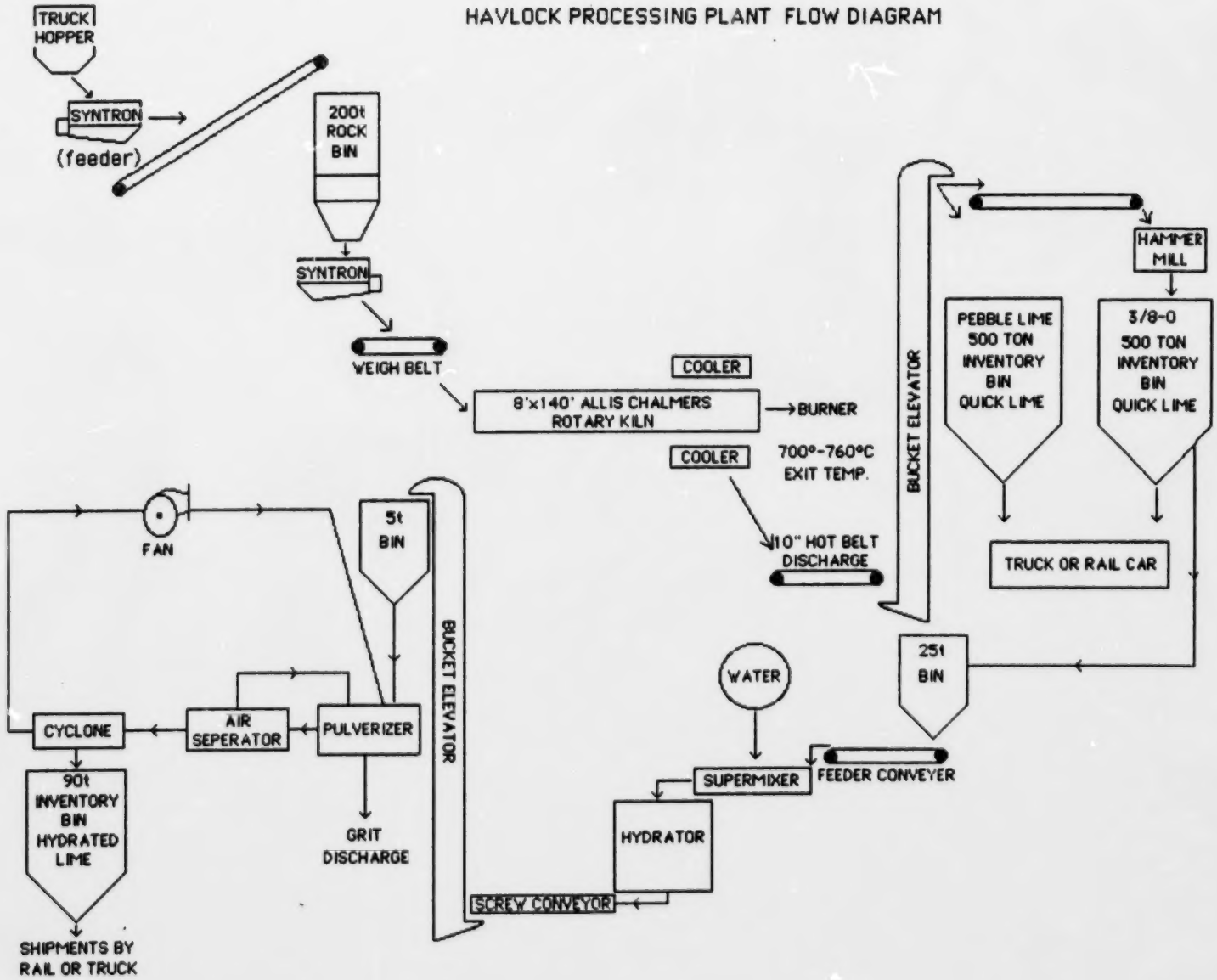
Flow Sheets of New Brunswick Limestone Producers

HAVELOCK LIME WORKS LTD. FLOWSHEET FOR AGRICULTURAL AND INDUSTRIAL LIME PLANT

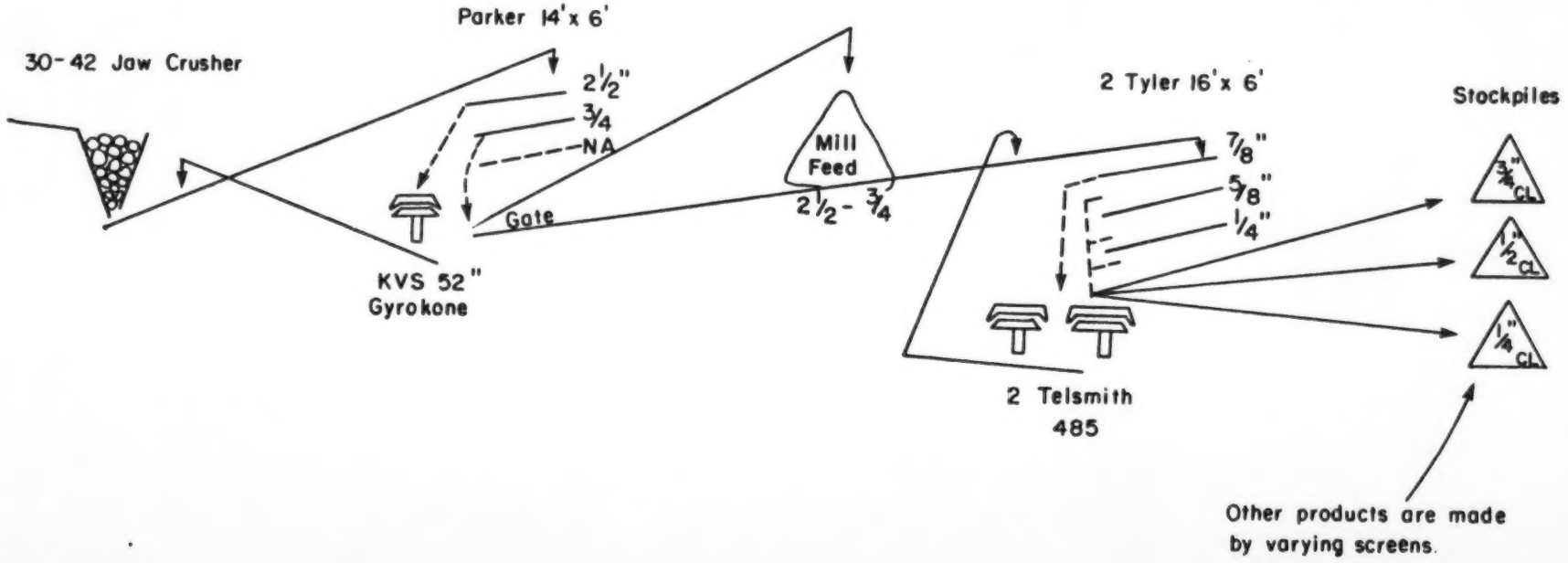




ELMTREE RESOURCES FLOWSHEET


HAVLOCK PROCESSING PLANT FLOW DIAGRAM
TRUCK HOPPER
SYNTRON
(feeder)
200t ROCK BIN
SYNTRON
WEIGH BELT
COOLER
8'x140' ALLIS CHALMERS ROTARY KILN
BURNER
700°-760°C EXIT TEMP.
COOLER
10" HOT BELT DISCHARGE
BUCKET ELEVATOR
HAMMER MILL
PEBBLE LIME 500 TON INVENTORY BIN QUICK LIME
3/8-0 500 TON INVENTORY BIN QUICK LIME
TRUCK OR RAIL CAR
FAN
5t BIN
BUCKET ELEVATOR
25t BIN
WATER
CYCLONE
AIR SEPERATOR
PULVERIZER
90t INVENTORY BIN HYDRATED LIME
GRIT DISCHARGE
SUPERMIXER
FEEDER CONVEYER
HYDRATOR
SCREW CONVEYOR
SHIPMENTS BY RAIL OR TRUCK

BROOKVILLE
AGGREGATE PLANT



APPENDIX X

Operating Costs for Limestone Quarrying and Processing

COSTS OF NEW BRUNSWICK LIMESTONE PRODUCTION

Maximum Range

Quarrying and Crushing 200,000 - 300,000 Tonnes per Annum - 1984

Quarrying (2 people needed in quarry 1 driller/powderman & 1 loader operator)	$0.80 - $0.95
Loading	$0.40 - $0.55
Internal Haulage	$0.50 - $0.70
Crushing to various aggregate-sized products	$0.70 - $1.00
Quarrying & Crushing Subtotal	$2.40 - $ 3.20
Milling, screening & drying for production of primarily "Aglime" at rate of 70,000 - 90,000 tpa	$3.70 - $5.15
Shipping & handling, including materials, labour, loading and bagging - averaged over all tonnage crushed	$0.70 - $1.05
Quarrying, Crushing, Milling & Shipping (i.e. total direct cost) Subtotal	$6.80 - $ 9.40
Overhead, including taxes, employee benefits, unallocated power consumption & unallocated equipment	$0.90 - $1.20
Selling & administration, including office staff & financing sales	$0.50 - $2.00
TOTAL	$8.20 - $12.60

Notes:

1) Costs for New Brunswick lime are not available, however Havelock officials noted that the new lime kiln could lower costs by as much as $10 to $15/tonne, depending on oil prices.

2) In a location where there is competition for the aggregate market from producers of rock other than limestone or from other nearby limestone producers, a producer would need to have costs at or near the lower end of the range to remain in business (overall selling price of one producer for all output was $8.26/tonne in 1984).

1983 OPERATING COSTS FOR LIME PRODUCTION

United States Dollars

(Source: "Future Lime Plant Design," Rock Products, October 1983, by Sydney M. Cohen*)

			TOTAL UTILIZATION SYSTEM		
			Shaft Kilns		
SYSTEM	LONG ROTARY KILN W/INTERNALS	SHORT ROTARY KILN W/PREHEATER	ANNULAR	DOUBLE-INCLINED	FLASH CALCINER
Capacity STD Fuel	750	750	450	200	100
Consumption (Btu/st)	6.5×10^6	5.2×10^6	3.5×10^6	3.7×10^6	4.5×10^6
Cost (1)/st	$22.75	$18.20	$12.25	$12.95 ($12.90 avg.)	$15.75
Power Consumption (kwh/st)	14 - 17	25 - 30	20	26	48(3)
Cost (2)	$0.68	$1.20	$0.80	$1.04 ($1.02 avg.)	$1.92
Labour	$1.14	$1.14		$1.14	
Maintenance	$0.84	$1.20		$0.90	
Raw Materials per Ton Lime Produced	$10.00(4)	$10.00(4)		$7.00(5)	
Totals/Ton/Lime	$35.41	$31.74		$21.82	

(1) Fuel cost based on $\$3.50/10^6$ Btu (assumed oil fuel in all cases).

(2) Power cost based on $0.40/kwh.

(3) Includes grinding cost to achieve minus 28 mesh from minus 3/8" materials.

(4) Includes the losses due to crushing and screening.

(5) Assumes total utilization.

* Assistant Director of Research and Developemnt for the Fuller Co., which is supplying the annular shaft kiln for Havelock.

APPENDIX XI

Employment

EMPLOYMENT AT NEW BRUNSWICK LIMESTONE OPERATIONS

Elmtree	5 - 20 depending on season
Havelock	30 - 40 depending on season
Brookville	22 - 40 depending on season
Upper Kent	0 - 3 depending on season

APPENDIX XII

Historical Information from Department of Agriculturel
Annual Reports on New Brunswick Agricultural
Limestone Assistance Policy

N.B. Department of Agriculture - Excerpts and Summaries from Annual Reports for Years Ending as Listed

1914 "PROPOSED DEMONSTRATIONS IN LIMESTONE PULVERIZING.

Our New Brunswick soils, for the most part, are very deficient in lime, especially those which have been cropped for a long time. In some cases these have received continuous heavy dressings of commercial fertilizers, resulting in serious depletion of the lime content. Pulverized limestone has been found to be just as effective as burnt lime, and is in many ways a more advantageous material to use. Since it is not caustic it is a more agreeable material to handle, and it will not burn the humus out of our sandy soils.

Limestone deposits are quite widely distributed over the province, and it should be possible, by the introduction of suitable machinery, to produce pulverized limestone more cheaply than burnt lime. The Department is planning to purchase a first-class portable plant for the work, which will be used to give demonstrations for agricultural societies or groups of farmers in various parts of the province during 1915. A society or group of farmers applying for a demonstration will be expected to quarry the limestone and have it ready for the machine, which will be sent to pulverize the stone at a cost per ton just sufficient to cover the cost of operation. Full particulars of the work will be furnished to any interested parties who inquire.

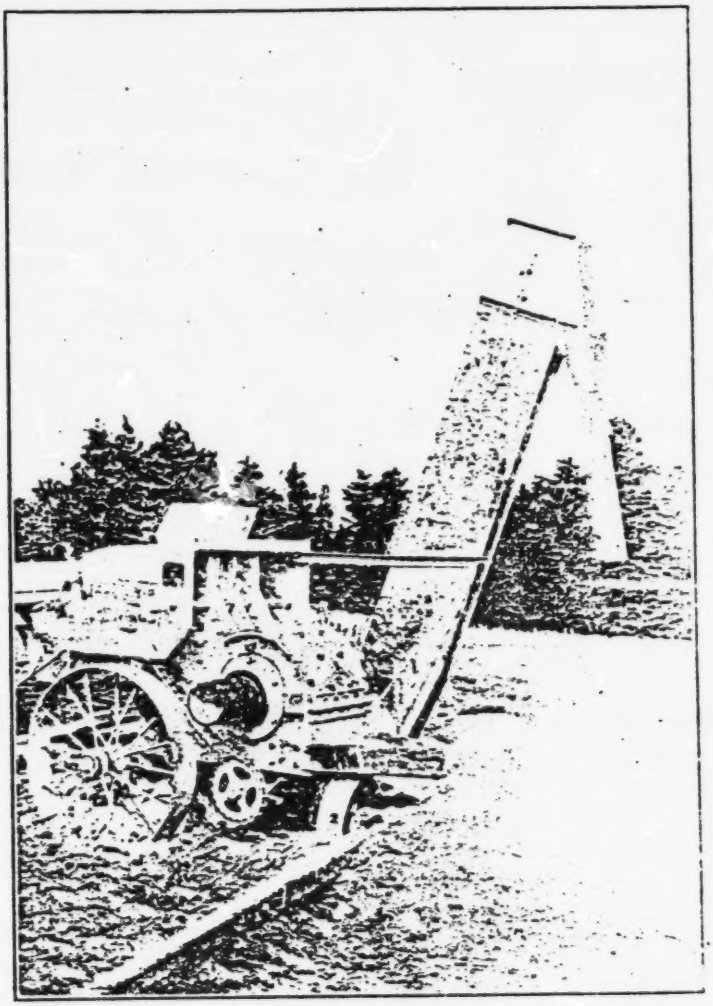
In connection with these demonstrations, meetings will be held at which speakers will deal with the whole question of soil fertility, and in particular with the relation of lime to the general problem.

Some experiments are already under way, and others are planned, to show the effect of applications of limestone to the soil, both alone and in conjunction with barnyard manure and commercial fertilizers. It has already been noted that our alfalfa work next season will include numerous tests of the value of lime as a factor in growing that crop."

1915

Lime Pulver in Operation, Showing Size of Rock Taken.

1916



Machine Used by the Department to Give Demonstrations in Pulverizing Lime Rock.

1918 "Practically all Maritime soils tend to become acid and such soils will not give yields that are economically satisfactory. Lime is the corrective. Quantities of lime rock are available and undoubtedly finely ground limestone is the safest and cheapest form in which lime can be used for this purpose. In order to have more definite information a partial soil survey has been made and will be consistently followed up and the information will be published immediately the tests are completed. This work has only begun but is of great value. The opening of limestone quarries and the grinding and distribution of the ground rock becomes an important part of the scheme and must be grappled with during the season of 1919."

1919 Report on a soil survey whereby "representative samples of soil from various parts of the province" were investigated in the laboratory and this was followed up with field experiments to determine the lime (ground limestone) required "to neutralize the acidity per acre of ground". The results were:

County	No. of Soils Tested	Pounds Limestone req'd per acre	Remarks
Restigouche	3	5,150	
Gloucester	42	5,683	Soil #202 from Petit Rocher underlain by strata of limestone, showed lime requirement of only 1,500 pounds per acre. Soil #208 from Bathurst which was heavily limed six years ago, showed requirement of only 300 pounds/acre.
Northumberland	30	4,085	
Kent	20	4,681	Soil samples from three areas which had received applications of mussel mud showed lime requirements of 600, 200 and 270 lbs/acre.
Kings	44	5,690	
Albert	10	6,690	
Queens	8	6,262	Soil from Gagetown limed 10 years ago showed lime requirement of 3,000 lbs/acre
York	25	6,326	
Carleton	35	6,553	
Victoria	29	5,876	

The report discusses the importance of lime in promoting availability of phosphate, potash and nitrogen as a consequence of correcting acidity. The merits of using quicklime versus ground limestone was discussed and it was noted that "for correcting acidity, 1120 pounds of burnt lime is equivalent to one ton of carbonate of lime, or ground limestone". In the case of ground limestone it was suggested that "for quick action 75 percent of it should pass through a sieve of 100 meshes to the inch".

"Sources of Lime in the Province.

There are distributed over the Province a fair number of limestone deposits; some of which are of excellent quality. The

following table gives the location of some of the more accessible deposits and their quality:

County	Locality	Percent carbonate of lime
Albert	Demoiselle Creek	92.75
do	do	79.37
do	Hillsboro Quarry	82.75
do	Elgin	95.31
Carleton	Florenceville	77.89
do	Hartland	87.87
Gloucester	Tetagouche	81.00
do	Elm Tree	97.25
do	do	70.00
do	Petit Rocher	88.75
Kings	Havelock	96.97
do	Sussex	83.81
do	do	81.34
Queens	Queenstown	94.00
do	Carpenter	93.00
do	Petersville	91.18
St. John	St. John	93.15
Victoria	Plaster Rock	63.60
do	Aroostook Junction	38.45
Westmorland	Taylor Village	96.25
do	Upper Dorchester	84.80
do	do	57.19
do	do	53.98
do	Petitcodiac	97.55
York	Keswick	60.15

Mussel Mud.

Mussel mud is a marine deposit frequently found at the mouth of tidal rivers. It consists of a fine silt containing variable quantities of oyster, mussel and clam shells. Inasmuch as the shells are largely carbonate of lime, they often are a valuable source of lime for agricultural purposes. The lime content of this material is dependent upon the percentage of shell present. Analysis of a sample of silt separated from the shells showed it to contain only 4.75 per cent carbonate of lime. Analysis of the shell showed it to contain 87.5 per cent carbonate of lime. From this data the importance of obtaining mud with a high shell content is obvious. Extensive beds of this material are found all along the Eastern coast of the province, and their utilization is of no little economic importance considering the requirement of our soils for lime."

1920 "A survey of the lime deposits revealed the fact that abundant supplies of high grade lime were available, the largest deposit being in St. John County. The lime in this district is also of high quality, testing 94 per cent carbonate of lime. It was finally decided by the Hon. Mr. Tweeddale, because of the unlimited quantities available at this point and the high quality

of the material to establish the plant at Brookville, St. John County.

Satisfactory arrangements were made with the railways in regard to the matter of freight rates, which solved one of the big problems that faces the working out of a lime policy in any country, namely, that of economical transportation. It must essentially be delivered to the farmers at a low cost in order that they can use it in the quantities required. Frequently, in other provinces and states of the Union, the transportation has cost more than the lime; in which cases th cost often runs up to a prohibitive figure when it is delivered.

A definite contract has been entered into with Messrs. Smith and Merrithew, Limited, Brookville, St. John County, to supply ground limestone to the farmers at $3 per ton in bulk, car lots, f.o.b. Brookville. They are now booking orders for delivery. If put up in bags the cost of bags and bagging to be charged extra. One of the most modern lime-crushing plants in America is placed at Brookville. this plant consists of a large preliminary crusher, through which the rock is put as it comes from the quarry. The broken material then passes directly from this into a large roller process grinder, which grinds down to the required fineness. The material can be run from this directly into a large storage bin. The plant has a capacity of 80 tons per day and began operations in September. A 75 h.p. electric motor supplies the power.

Farmers' organizations, Agricultural Societies or individual farmers should place their orders with the Smith and Merrithew Company, Brookville, who will fill them in the order in which they are received up to the full capacity of the plant.

Farmers will appreciate this opportunity of getting any quantity of limestone at as low a cost as $3 per ton. At that price it will be widely used and the results from its use will speak for its worth."

1921 "Unqualified approval of the policy initiated by your Department for supplying pulverized limestone to farmers for a soil amendment is attested by the extent to which farmers have availed themselves of the output of the Government owned lime-quarry and grinding plant at Brookville. The total output since the installation of the machinery is 7255 tons, and for the fiscal year 6666 tons, on which royalties amounting to $1666.58 have been deposited with the Comptroller General. In June the working of the plant was vested in the Brookville Manufacturing Company, successors to Messrs. Smith and Merrithew Limited, who have continued to operate under the terms of the original contract, viz. $3.00 per ton, in carlots, F.O.B. Brookville. Farmers in all counties of the Province have used the limestone from this crusher and testimonials of the beneficial effects of limerock applications of the past year are to hand despite the dry season which in some

sections was so severely felt that the germination of seed was only partial.

Roadside Lime Demonstration Plots.

Demonstration co-operative experimental lime plots were established along main highways with farmers in eight counties. From these plots there will be secured over a number of years data on the yields on limed and unlimed areas of all the crops grown in the rotation. To each co-operator the Department supplied free one ton of pulverized limestone, shipped from the Brookville quarry, to be spread on one-half of the experimental plot at the rate of two tons to the acre. A check plot of one-half acre which received no lime was included from which to secure comparative data. The plots were fall plowed, and in the spring limed, and sown to grain and seeded down generously with clover and timothy."

1922 Sign boards were erected at lime demonstration plots to attract the attention of the public.

1924 "Other experiments were also arranged for at Caraquet, Riordonville, St. Isidore and Petit Rocher with lime sludge, a residue from the Bathurst Pulp Mill. This material contains 96 percent Carbonate of lime and is in precipitated form. It gave very good results with clover put on at seeding time at the rate of two tons to the acre. Definite results from these experiments will not be available until next year.

Lime is being used more generally along the North Shore in the form of ground limestone, marl and sludge. Farmers are beginning to appreciate its use as evinced by the increasing orders to the pulverizing mills at Petit Rocher and Brookville."

1925 "Following the announcement of the reduced freight rate on pulverized limestone billed from the Government-owned plant at Brookville, in effect on and after November 1, 1924, the demand increased to that extent that the plant was operated continuously through the winter and spring months until June. It was again operating in September and October. The total output for the year was 8679 1/4 tons, and for the five years, since the plant began grinding in September, 1920, 28798 1/4 tons. Other smaller grinding machines were operated at Petit Rocher and at Havelock. The fact that twice the quantity of pulverized limestone was used this year as in 1924 can be attributed directly to the lowered cost of the material to farmers."

1928 "Appreciation of the value of liming with pulverized limestone is evidently on the increase. The Brookville Manufacturing Company, Brookville, Saint John County, made a new record output this year. The quantity sold was 11,736 3/4 tons. The two leading counties in carload destinations of pulverized limestone were Kent and Gloucester with 63 and 43 carloads respectively.

A downward revised tariff on pulverized limestone, effective from July 1st, 1927, issued in compliance with the Maritime Freight Rates Act 1927, established the lowest scale of rates which has yet applied to this product in this Province."

1932 Reduction of 50¢ per ton in the charge for ground limestone was made in March. "The price of this material is not $3.50/ton bulk, in carload lots, freight paid, delivered at any station."

1935 Results of Soil Survey for Magnesium Released

County	No. of Samples	Percentage of soils showing high & med. high available Magnesium	Showing Low and Very Low Available Magnesium
Madawaska, Southern Section principally	8	37.50	62.50%
Victoria	108	23.14	76.84
Carleton	114	35.08	64.91
York-potato sect.	49	30.60	69.36
Queens-Sunbury	14	71.42	28.56
Kings	8	25.00	75.00
St. John	12	66.66	33.33
Westmorland	27	74.06	25.91
Albert	4	75.00	25.00
Kent	17	82.35	17.58
Gloucester	10	100.00	0.
Restigouche	38	57.88	42.10

"This summary indicates that in the potato section a high percentage of the soils tested gave a low test for available magnesium. Outside of the potato growing section the majority of the soils tested gave a test showing sufficient available magnesium for growing crops. An examination of a larger number of soils is necessary to confirm these results for counties other than Carleton and Victoria. The results in Kings county do not represent the county at large, but principally a local section where a magnesium deficiency was apparent."

1936 Lime grinding plants now in operation at:

Elmtree, Gloucester Co.
Brookville
Saint John
Pinder, York Co.
Ashland, Carleton Co.

1939 "The price of ground agricultural limestone to farmers was reduced 25 cents per ton in the beginning of the season and to encourage the fall application of this material, a special reduction was put in effect for fall delivery. It is hoped that

as a result of this policy fall applications will become more general."

"Prices were reduced for the year to farmers by the policy of the Department of Agriculture paying freight over 25¢/ton in bulk 30 ton cars f.o.b. nearest railroad station or $3.50 in bags."

"Effective on June 15th prices were reduced 25¢/T for the summer season to mfgrs, making delivered rail costs $2.50 and $3.25 in bulk and bags, respectively."

"On Oct. 9th by arrangement, prices delivered to nearest rail station were _____. This was made possible by this Department paying all the freight and 25¢ per ton of the cost of material for bulk lime."

1941 Price delivered to nearest railroad station in 30 ton cars remained at $2.00 per ton.

1944 "An agreement was entered into with the Dominion in respect to a policy designed to increase the output of agricultural limestone. Effective to Mar. 31, 1946.

"Under a mutual agreement policy with the Dominion, all freight is post on this material to farmers and lime delivered to nearest railway stations of farmers at $2 per ton bulk basis, in 30 ton cars."

"The demand for this material has during the past two years been in excess of grinding capacity, but new equipment added by the manufacturers should in the near future bring the output up to the demand."

1945 "During the year two limestone deposits were explored by diamond drilling, viz. at Wapske and Siegas. The latter revealed a large deposit of medium quality."

"The Wapske deposit was considered the least suitable. A large deposit was located at Siegas with a good quarrying chance, but lime content of the rock was a little on the low side."

"A new quarry has been opened at Havelock and the quarry in the Springhill district of Havelock is being closed in favor of a new location on track. The deposit of Elm Tree, Gloucester County, has been re-opened under co-operative management."

1946 Agreement with the Dominion continued as under wartime.

1950 A check of 344 samples of soils tested showed:

5.23%	pH 4.5 or lower
33.44%	pH 4.6 to 5
42.17%	pH 5.1 to 5.5
15.40%	pH 5.6 to 6
3.76%	pH 6.0 or above

1952 "The distribution of lime under Federal-Provincial policy was 68,905 tons. The price of $2.00 per ton bulk basis, delivered in carlots continued in effect to September 1st when the price was advanced to $2.30 up to December 31st. At January 1, 1952, the price to farmers was, of necessity, advanced to $2.50 per ton bulk basis delivered in carload lots. Cost of bags and bagging is payable by farmers when thus purchased. The above price was made possible under Federal-Provincial agreement covering transportation and certain subvention to manufacturers."

1958 "The federal and provincial governments, as in previous years, extended financial assistance to manufacturers and users of agricultural limestone in the form of freight assistance, manufacturers' subvention and assistance in trucking of ground limestone from railway to farm. Each government paid fifty per cent of the freight on carlots to the railway siding nearest the user's farm, a subvention of $1.00 per ton to manufacturers and five cents per ton mile to farmers whose farms are over ten miles from the nearest siding and not beyond thirty miles. This last assistance was extended only for the miles between ten and thirty miles from the siding."

1959 "Distribution of agricultural limestone continued, as in previous years, under the Federal-Provincial Lime Policy. An important change took place in this Policy this year in that the federal assistance increased from fifty per cent of the distribution costs to sixty per cent. The assistance extended to farmers under this Policy was the same as that for the previous year, namely all railway freight charges, $1.00 per ton production subvention to the manufacturer and five cents per ton mile on truck haulage from the purchaser's nearest railway siding for those miles between 10 and 30 miles from the siding.

The total tonnage purchased by farmers for agricultural use was up nearly 30 per cent over the previous year."

1960 An increase of 5 per cent in the use of agricultural limestone took place during the year. Under Federal-Provincial Lime policy agreement the federal government reimbursed the provincial treasury by a subsidy amounting to 60 per cent of the costs of distribution and manufacturers' subvention.

The price of agricultural limestone remained the same as for the previous year for carload lots; i.e. $2.50 per ton for bulk lime and $4.50 per ton for bagged lime.

COSTS UNDER FEDERAL-PROVINCIAL POLICY

1.	Transportation	$122,081.89
2.	Production	43,491.56
3.	Transportation from Railway Car ...	152.45
	TOTAL	$165,725.00

1961 Subsidy continued to be paid 60 per cent by Federal Government and 40 per cent by Provincial Government.

1962 "Manufacturers participating in distribution of ground agricultural limestone under policy were Brookville Lime Manufacturing Company, Brookville, Snowflake Lime Company, West Saint John, Havelock Lime Works, Havelock, and Elm Tree Lime Company, Nigadoo. In addition to these companies, lime sludge from the Bathurst Power and Paper Company was distributed in Gloucester County to the equivalent of 224 tons.

Some farmers in the vicinity of the quarry operated at Waterville, York County, by the York Marble Works, and of a marl deposit at Moose Mountain, Carleton County, obtained their supplies from these sources, although not under Policy."

1963 Assistance continued at the same rates with "the Federal Government reimbursing the Province to the extent of sixty per cent of the amount expended up to a total Federal assistance of $100,000.00."

1963 "Approximately one-third of the lime distributed to farmers moves by truck and the remainder by rail."

"A considerable quantity of marl from Coolings Lake, Upper Kent, was spread on farm fields in Carleton and Victoria Counties, but no subsidy was paid on this lime material."

1964 A total of 24,887.51 tons were moved by rail and 16,609.22 tons by truck. Assistance paid for distribution is tabulated as follows:

Freight and payments in lieu thereof	$108,419.02
Production subvention	43,399.93
Trucking assistance from rail car	57.10
TOTAL	$151,876.05

1965 "The Provincial Lime Policy continued to operate under Federal-Provincial agreement by which the province received from the Federal Government a refund of assistance under Policy to the extent of 60 per cent. The refund was limited to a total of $100,000.00 for the year.

"Under this policy, all the rail freight on carlots of ground agricultural limestone for use on farms was paid from Brookville Manufacturing Company, Brookville; Havelock Lime Works, Havelock; Snowflake Lime Company, Saint John; and Elm Tree Lime Company, Petit Rocher, to the railway siding nearest the purchaser. For those buyers residing more than ten miles from the nearest siding, further assistance, at 5 cents per ton-mile for a maximum of $1.00 per ton or up to 30 miles from the nearest siding, was available, on the recommendation of the local District Agriculturist."

1966 "Under the Provincial Lime Policy assistance continued on agricultural limestone and lime sludge for use on New Brunswick farms. The Federal Government refunds to the Provincial Government sixty per cent of the amount expended in assisting lime distribution up to $100,000.00 federal share.

Assistance consists of all freight charges from manufacturer to the railway siding nearest the purchaser on bulk carlots plus five cents per ton-mile to purchasers residing over ten miles from a siding, payment being on each mile beyond the ten mile limit up to a maximum of 20 miles assistance. In lieu of freight payment an allowance of two dollars per ton in lieu of freight is paid on lime trucked by purchasers directly from the manufacturer. On agricultural limestone produced by approved manufacturers within the province, a production subsidy of $1.25 per ton is paid to the manufacturers. By special arrangement transportation assistance is paid to purchasers bringing ground limestone from the Leo Lavoie Plant, Sully, Quebec.

Cost of carlot lime remained at $2.50 per ton for loose lime and $4.50 per ton for bagged lime.

The following tonnages of agricultural lime and liming material were distributed under policy and, in addition, a considerable tonnage of Marl from Coolings Lake in Carleton County was spread on farms with no assistance under policy.

Rail movement of agricultural limestone accounted for 30,163.145 tons from provincial manufacturers and truck movements for 23,343.25 tons. In addition 538.62 tons were moved by truck from the Leo Lavoie Mine Plant at Sully, Quebec. Assistance for transportation amounted to $140,353.70 and the production subvention was $66,882.97 for a total $207,236.67 as assistance to farmers in the cost of lime for agricultural purposes."

1967 "The Federal-Provincial agreement on the distribution of ground agricultural limestone was discontinued in 1966 and the Province of New Brunswick assumed the total financial cost of the policy in 1967. The policy is designed to assist on the production and transportation cost of ground agricultural limestone purchased by New Brunswick farmers. The total benefits paid under the policy in 1967 amounted to $3.90 per ton."

1968 "The province of New Brunswick continued the assistance on the production and transportation cost of ground agricultural limestone purchased for use on New Brunswick farms. The total tonnage used was up slightly over the previous year, but remains well below the amount required for both maintenance and correction of soil acidity. It is estimated that New Brunswick farmers should be using at least 150,000 tons annually."

1969 "Assistance on production and transportation of ground agricultural limestone was continued. Total tonnage used was up slightly over the previous year, but remains well below the amount required for both maintenance and correction of soil acidity. It is of interest that the greatest increase occurred in Carleton County. This is considered to be associated with the establishment of a custom spreading operation in the county in 1969."

1971 "Ground agricultural limestone sales were up by nearly one thousand tons from the previous year. The northern counties of Restigouche, Madawaska, Gloucester, Victoria and Northumberland and Kent each showed slight declines as well as Sunbury County. All other counties showed increases with Carleton County increasing in excess of 2200 tons. This large increase may in part reflect the commercial spreading operation which has been in operation during the year under review."

1972 "All counties benefit from the Agricultural Limestone Policy. This policy pays for the cost of transportation when limestone is hauled by rail car from the lime plant to the nearest rail siding of the farm operator. Also when limestone is hauled by truck, the policy provides for a transportation subsidy of $2.00/T."

1973 Assistance under lime policy was $175,340.

1974 Assistance under lime policy was $226,198.

1977 "Lime transportation policy was revised to encourage lime transportation by truck within a 100 mile radius from lime plants and to assure the effectiveness of the policy."

1986 (Source E.Pratt D of A) Lime policy as in Appendix I was issued on September 1, 1985. It is a modified version of the policy which began in 1977 and has been revised a number of times. A graduated rate of transportation assistance only is provided.

Under the "pH adjustment sub-program" Land Program of the Federal-Provincial Agrifood Development Agreement farmers with low pH soils may elect to take a greater level of assistance instead of the transportation assistance under the Provincial Lime Policy. Providing the land requires 2 tonnes of lime or more, they qualify for assistance on both price and transportation. If the land has a pH of 6.0 or more this higher level of assistance is not available. (Details available from N.B. Dept. of Agriculture - Dr. I Ghanam).

1970

AGRICULTURAL LIMESTONE

PROVINCIAL LIME POLICY

NEW BRUNSWICK DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT

Application of Policy

The New Brunswick Provincial Agricultural Limestone Policy is applicable to limestone suppliers operating within the province as approved by the New Brunswick Department of Agriculture and all ground limestone to which this Policy applies must be used for agricultural purposes on New Brunswick farms.

Assistance Extended Under Policy

(a) All rail freight charges to the nearest rail siding of the purchaser.

(b) Transportation assistance of 5 cents per ton mile from the rail siding to the farm, provided the point of delivery is over 10 miles from the siding. Maximum assistance under this section is not to exceed $1.00/T. This assistance will be paid direct to the purchaser on the recommendation of the District Agriculturist. Applications for assistance must be accompanied by a statement, signed by the purchaser, and showing mileage from rail siding to farm, tons of limestone delivered, rail car number, name of shipper, name and address of purchaser and receipt for trucking charges.

(c) Transportation allowance of $2.00 per ton to suppliers on limestone transported by suppliers' truck to purchaser's farm.

(d) Transportation allowance of $2.00 per ton deducted at lime plant when transported at the expense of purchaser for use on New Brunswick farms.

(e) A production subvention to lime plants of $1.25 per ton on ground limestone sold for use on New Brunswick farms.

(f) Freight transportation of $1.00 per ton on lime sludge from the Bathurst Pulp and Paper Company.

Standards for Agricultural Limestone

Agricultural limestone must meet the following standards:

(a) Neutralizing value of 85% or above.

(b) Fineness - All particles must pass through a 10 mesh screen and 50% through a 100 mesh screen.

PRICES OF AGRICULTURAL LIMESTONE - 1970

Delivered by Rail

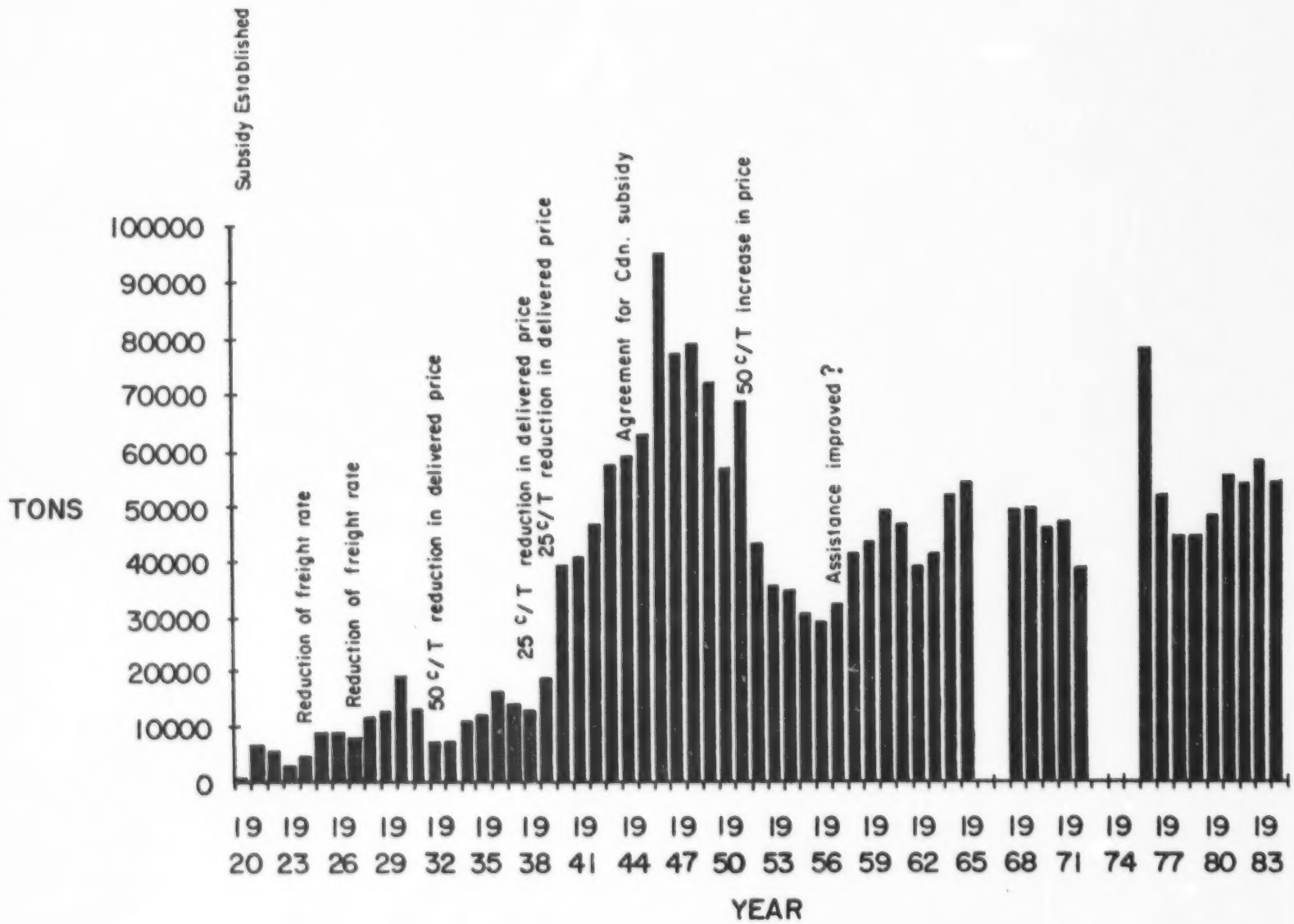
Bulk - $2.80/T

Bagged - $5.25/T

F.O.B. Lime Plant

Bulk	Gross	Net to Farmer
Bulk	3.00/T	1.00/T
Bagged	6.00/T	4.00/T

SUBSIDISED AGLIME PRODUCTION-N.B.


Subsidy Established
Reduction of freight rate
Reduction of freight rate
50 c/T reduction in delivered price
25 c/T reduction in delivered price
25 c/T reduction in delivered price
Agreement for Cdn. subsidy
50 c/T increase in price
Assistance improved ?
TONS
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
19 19 19 19 19 19 19 19 19 19 19 19 19 19 19 19 19 19 19 19 19 19
20 23 26 29 32 35 38 41 44 47 50 53 56 59 62 65 68 71 74 77 80 83
YEAR